G. W. MOORE.

REVERSING GEAR MECHANISM.

APPLICATION FILED MAR. 14, 1916.

1,214,703.

Patented Feb. 6, 1917.

2 SHEETS—SHEET 1.

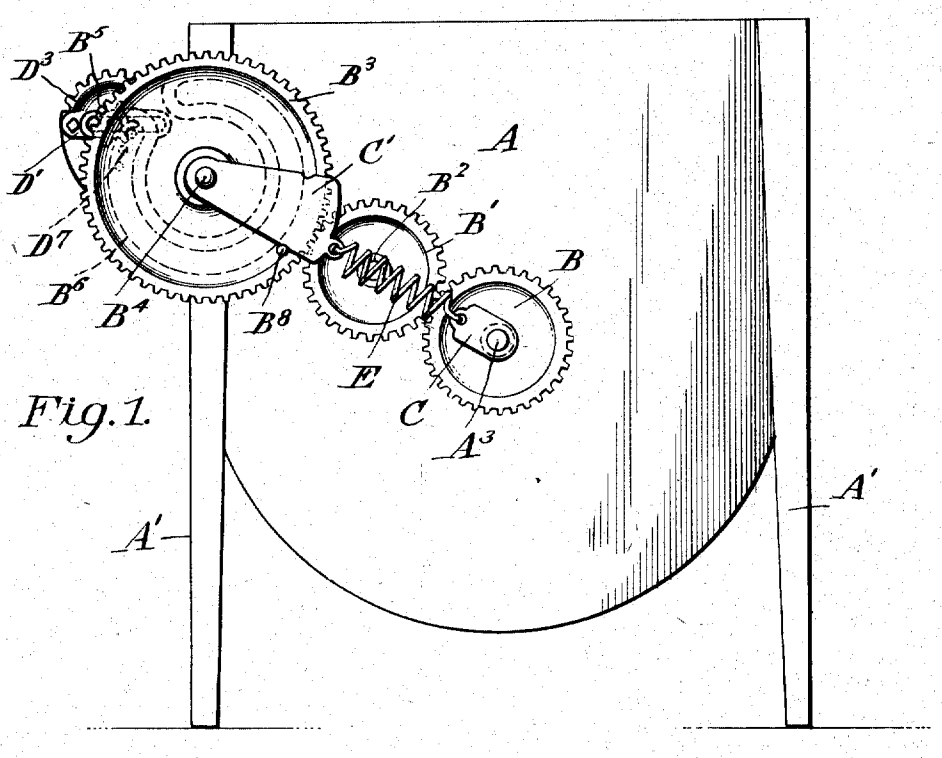


Fig. 1.

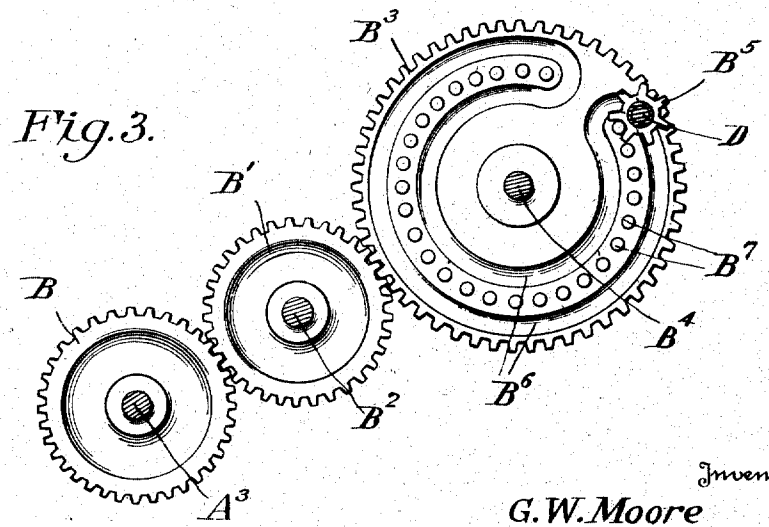


Fig. 3.

Witnesses

Fenton W. Belt

J. W. Shawvers

Inventor

G. W. Moore

By Franklin H. Hough

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON.

G. W. MOORE.

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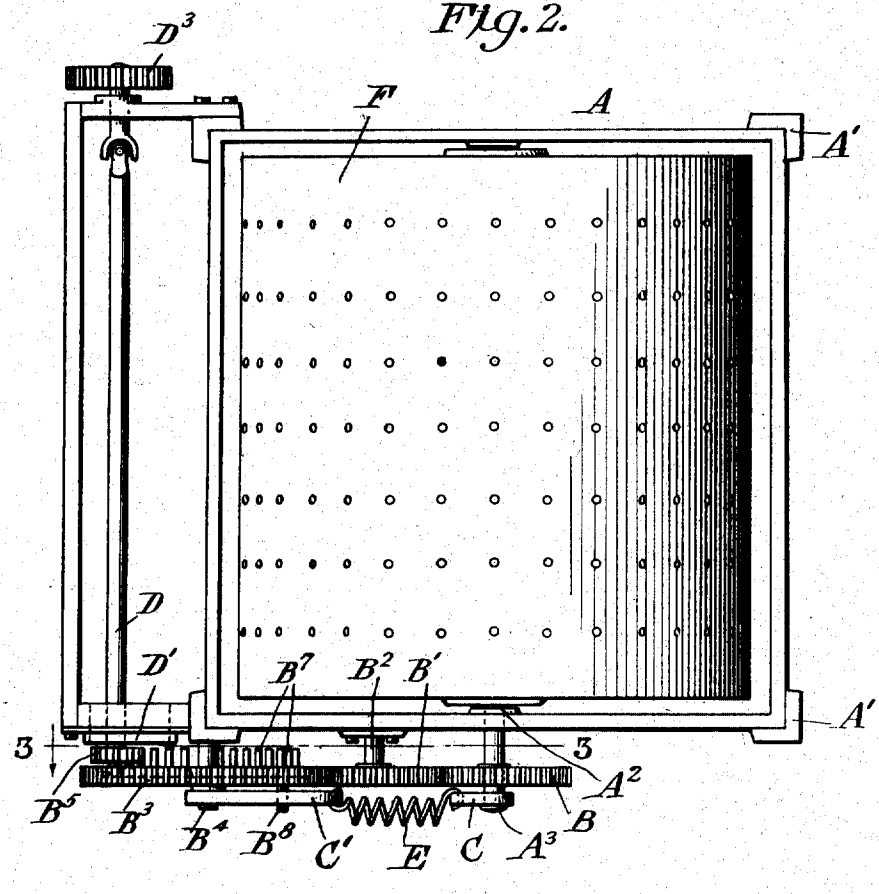
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2 SHEETS—SHEET 2.

Fig. 2.



Witnesses

Fenton W. Pelt

J. H. Sherwood

Inventor

G. W. Moore

By Franklin H. Hough

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON MOORE, OF TULSA, OKLAHOMA.

REVERSING-GEAR MECHANISM.

1,214,703. Specification of Letters Patent. Patented Feb. 6, 1917.

Application filed March 14, 1916. Serial No. 84,198.

To all whom it may concern:

Be it known that I, GEORGE W. MOORE, a citizen of the United States, residing at Tulsa, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Reversing-Gear Mechanisms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in reversing gears for washing machines, churns and any other machines that require an oscillating movement, and has for its object to provide a reversing mechanism so constructed as to eliminate all shocks usually caused by the reversing of the direction of travel of the gearing. The mechanism being so arranged that, when the gearing starts to reverse, the shock is gradually absorbed thus relieving the gears and machine from all shock or strain.

The present invention consists in various other details of construction, combinations and arrangements of parts, all as will be more fully hereinafter described, shown in the accompanying drawings and then specifically defined in the appended claim.

My invention is illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of a washing machine, my invention being shown applied thereto. Fig. 2 is a top plan view of the same, and Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Reference now being had to the details of the drawings by letter, A designates a washing machine having suitable legs A′. A cylinder F, located within the body of the machine, is mounted for rotation on a shaft A^2 journaled in the side walls of the body portion, and one end A^3 of the shaft extends beyond the body portion and has mounted thereon and fixed thereto a gear wheel B which is in mesh with a gear wheel B′ journaled on a stub shaft B^2, secured to the body. Said gear B′ is in mesh with the reversing gear wheel B^3 which is mounted on a stub shaft B^4, and the gear B^3 is provided on its inner face with a plurality of pins B^7 arranged in a circle and adapted to be engaged by the teeth of a small pinion B^5, as shown, secured on a shaft D mounted in suitable bearings at the end of the body of the machine. Said wheel B^3 is further provided with an endless groove B^6 which surrounds the pins B^7 and is adapted to receive the end of the shaft D to keep the gear B^5 in mesh with the pins B^7 of the gear B^3.

The shaft D has one end mounted in a bearing D′ having an elongated opening to permit of a side swinging movement of said shaft when the points of reverse are reached, and the shaft D is further provided with a universal joint to prevent twisting of the shaft. Mounted on the shaft D at the end opposite the end carrying the gear B^5 is a driving gear D^3 which receives power from any suitable source, not shown.

Loosely mounted on the end A^3 of the shaft A^2 is a short arm C which has secured thereto one end of a coil spring E, the opposite side of which is connected to the end of an arm C′ loosely mounted on the outer end of the stub shaft B^4, the object of the spring E being to keep the two arms C and C′ in line and under spring tension so that, when the pin B^8, which is secured to the outer face of the wheel B^3, comes in contact with the arm C′ at the moment the gear B^3 is about to reverse, which is caused by the gear B^5 passing around to the opposite side of the pins B^7, the arm C′ will receive the shock and absorb the same until the gear B^5 has passed around the end pin B^7 when it will, through the medium of the spring E, give assistance to the gear B^5 in starting the larger gear B^3 in the reverse direction.

The number of revolutions given to the washing cylinder F can be varied by substituting gears of different diameters for the gears B and B′.

Having thus described my invention, what I claim to be new and desire to secure by Letters Patent is:

In a washing machine a frame, a spindle projecting therethrough, a gear wheel fixed to said spindle, a plate pivoted on the spindle and projecting laterally therefrom and apertured, a stub shaft upon the frame, a gear wheel journaled upon the stub shaft, a circular series of pins projecting from one face of said gear wheel journaled upon the stub shaft, and a single pin from its opposite face, a driving shaft, a pinion thereon meshing with said series of pins, a wheel

intermeshing between said gear wheels, a plate pivoted on the stub shaft and having a notch in one edge thereof adapted to engage said single pin, a portion of the notched plate projecting beyond the circumference of the pin carrying wheel and having an eye in its end, and a spring engaging said eye and the aperture in the plate on the spindle.

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

GEORGE WASHINGTON MOORE.

Witnesses:

LORENZO GRIER,
FLORENCE H. MOORE.

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