

No. 670,246.

Patented Mar. 19, 1901.

A. PLAGMAN.
GEARING.

(Application filed Oct. 18, 1900.)

(No Model.)

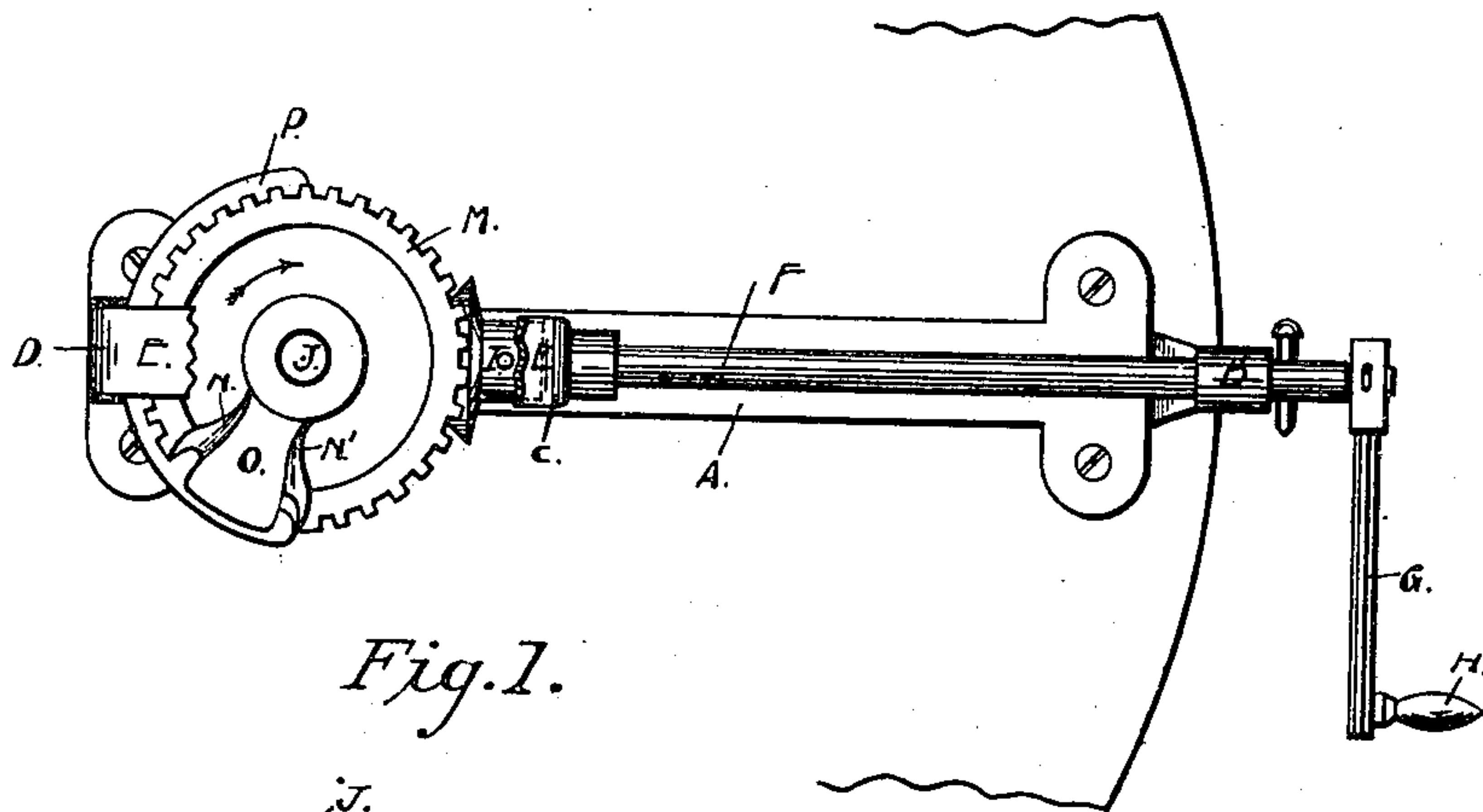


Fig. 1.

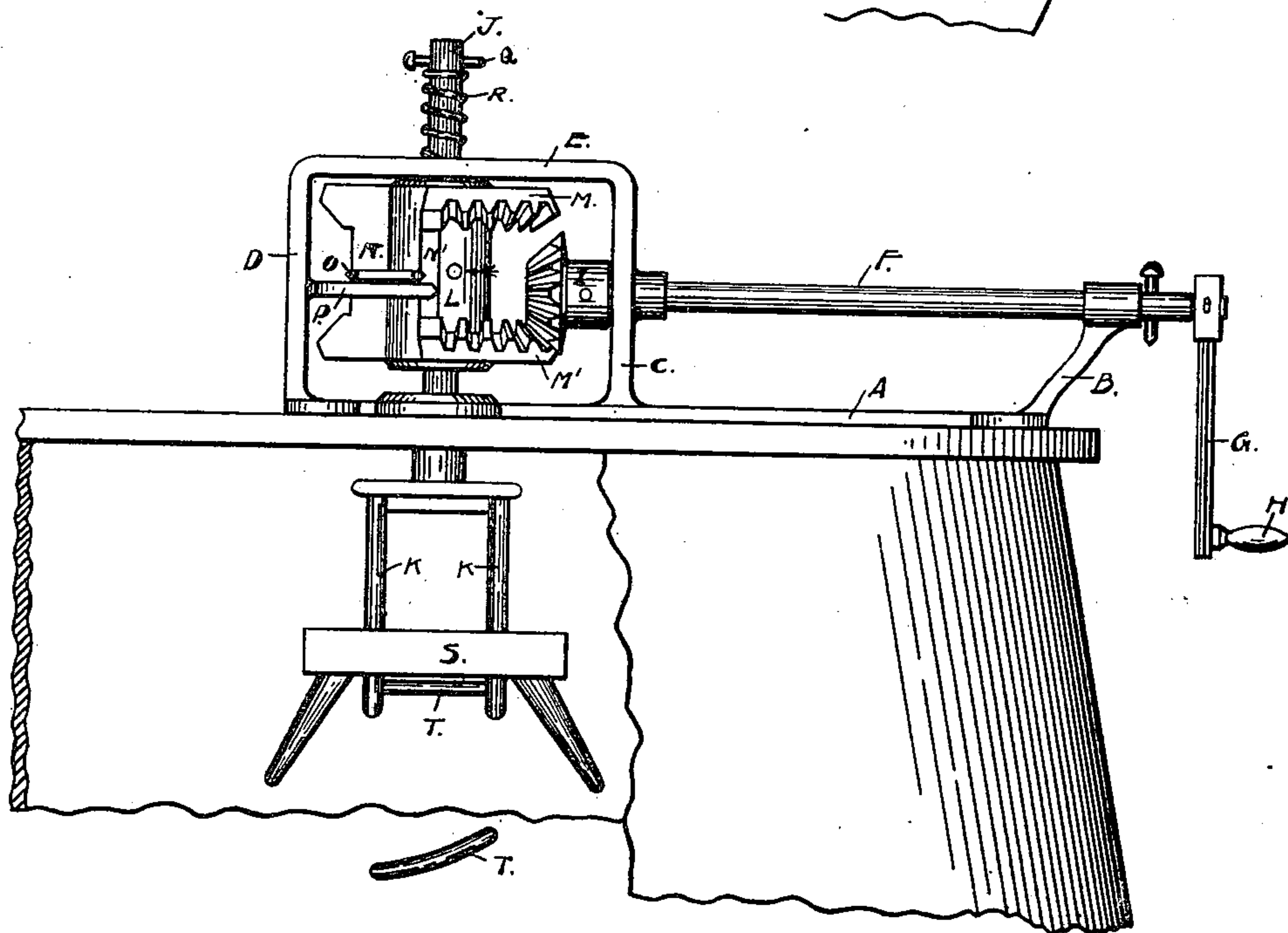


Fig. 2.

Witnesses.

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ADOLPH FLAGMAN, OF DAVENPORT, IOWA.

GEARING.

SPECIFICATION forming part of Letters Patent No. 670,246, dated March 19, 1901.

Application filed October 18, 1900. Serial No. 33,442. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH FLAGMAN, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented a new and useful Improvement in Gearing; and I do declare the following specification, taken in connection with the accompanying drawings, making a part of the same, to be a full, clear, and exact description of the invention, such as will enable those skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in gearing, and is particularly adapted for use in washing-machines in which the usual stirrer-block located within the tub is caused to alternately revolve first in one direction and then in the opposite direction by means of a shaft journaled in a frame secured to the top of the tub lid or cover, which is continuously revolved in one direction; and the invention has for its object the simplification of the means by which this reciprocating motion is imparted to the stirrer-block, and is especially intended as an improvement and simplification of the previous invention of myself and H. F. Brammer, patented May 28, 1895, and numbered 539,790.

In the accompanying drawings, Figure 1 is a plan view of my invention, a portion of the supporting-frame being broken away, the better to disclose the parts. Fig. 2 is a side view of the same, only a portion of the usual tub or body being shown and being broken away to show the means for sustaining the usual stirrer-block within the tub.

A represents the base of the frame secured to the top of the lid and which supports the operating parts located above such lid.

B is an upwardly-extending arm provided with a horizontal aperture.

C and D are vertical posts connected by the bridge E.

The parts A, B, C, D, and E are preferably integral with one another and may be cast in a single piece.

F is a horizontal shaft journaled in the arm B and post C. To the outer end of the shaft F is secured the crank G, provided with a handle H for the purpose of revolving the horizontal shaft.

I is a bevel gear-pinion secured to the in-

ner end of the horizontal shaft F immediately adjacent to the inner side of the post C.

J is a vertical shaft which passes through openings in the center of the bridge E and a similar opening in the base-plate A. This vertical shaft passes through the tub-lid, and below such lid it is branched or forked. Such forks are shown in Fig. 2 and there marked K K. This shaft J is adapted to have vertical movement as well as a reciprocating rotary motion. To such vertical shaft I firmly secure, in any suitable manner, a casting composed of a cylindrical sleeve L, partial bevel gear-wheels M M', extending at an angle from the extremities of such sleeve, ribs or webs N N', extending outward from the cylindrical sleeve where the partial gear-wheels terminate, and a tongue O, extending outwardly from near the vertical center of such cylindrical sleeve and between the webs N N'.

Secured to the post D of the frame is a semicircular flange P, which extends horizontally about half-way around the sleeve-casting, and so that when said sleeve-casting is in its uppermost position, as hereinafter described, the tongue O will rest upon such flange.

Q is a cotter or pin which is passed through the upper extremity of the vertical shaft J.

R is a spiral spring which encircles the shaft J and is sustained between the bridge E and the cotter Q.

S is the usual stirrer-block, which is perforated, so that it may be slipped over the ends of the forks K K. The lower extremities of such forks are provided with horizontal perforations, and the stirrer-block is held upon the forks in the following simple manner: A rod or pin T, of malleable metal, of such length that when perfectly straight it will equal in length the distance from about the middle of one fork K to the middle of the opposite fork, is bent circularly. In its bent form the rod T may readily be inserted into the openings in the forks, and after such insertion the rod is straightened by pounding or otherwise. This will extend it so that it cannot be removed without again bending it. In this manner it will be seen that the stirrer-block is loosely supported on the forks K K without the use of bolts and in the most simple and efficient manner.

The mechanism above described and shown may be operated in the following manner: If the parts stand in the position shown in Fig. 2 and the horizontal shaft F, with pinion I, be revolved toward the right, said pinion will engage the teeth on the lower partial wheel M', and the vertical shaft J, with parts secured thereto, will be revolved in the direction indicated by the arrow in Fig. 2. The vertical shaft and connected parts are then in their uppermost position and are supported in such position by the tongue O, which rides upon the flange P. When in the revolution of the parts the tongue reaches and passes beyond the end of the flange P, the vertical shaft J and parts will drop from the force of gravity and from the tension of the spring R until the partial wheel M' rests on the base-plate A. The pinion will then come into engagement with the teeth of the upper partial wheel M, and in consequence the movement of the vertical shaft and attached parts will be reversed and be revolved in the opposite direction, while the horizontal shaft is continuously revolved in one direction. The vertical shaft will turn in such opposite direction until the tongue O comes in contact with the pinion, when such tongue will engage between two of the teeth on said pinion, and the vertical shaft being vertically movable, as already stated, the same will be forced upward. This will raise the sleeve-casting up so that the tongue O will again rest upon the flange P, and then the shaft will again be driven in the direction of the arrow, as first described. Thus I employ the tongue O not alone for the purpose of sustaining the vertical shaft in its uppermost position, but to raise the same from its lower to its upper position, and in this respect reduce the elements necessary in my previous invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In combination, a supporting-frame, a horizontal driving-shaft journaled in such

frame, means for manually revolving such shaft attached to one end thereof, a pinion secured to its other end; a vertical shaft mounted to revolve and movable vertically in the supporting-frame, a casting secured to the vertical shaft, such casting composed of two partial bevel gear-wheels whose teeth face each other, a cylindrical sleeve connecting said wheels, a tongue projecting from the cylindrical sleeve and located between the points where the partial gear-wheels terminate; a semicircular flange secured to the supporting-frame upon which flange the projecting tongue is adapted to rest, a tension-spring surrounding the upper portion of the vertical shaft, for the purpose stated and substantially as described.

2. A casting composed of two partial bevel gear-wheels whose teeth face each other, a centrally-cored cylindrical sleeve connecting the two partial bevel gear-wheels, a tongue projecting outwardly from the cylindrical sleeve and located between the points where the partial gear-wheels terminate for the purposes herein stated and substantially as shown and described.

3. The combination of a horizontal shaft, a pinion secured to one end thereof, a vertical shaft, a casting composed of two partial wheels provided with beveled teeth or cogs, the teeth facing each other, a centrally-cored cylindrical sleeve connecting the two partial bevel gear-wheels, a tongue projecting outwardly from the cylindrical sleeve and located between the points where the partial wheels terminate; such casting secured to the vertical shaft, the teeth on the partial wheels and the projecting tongue adapted to mesh with the teeth on the pinions for the purposes herein stated.

In witness whereof I have hereunto set my hand this 6th day of October, 1900.

ADOLPH PLAGMAN.

Witnesses:

G. B. SUSEMIHL,
H. R. KROHN.