

L. H. DAVIS.
Washing-Machines.

No. 143,225.

Patented September 30, 1873.

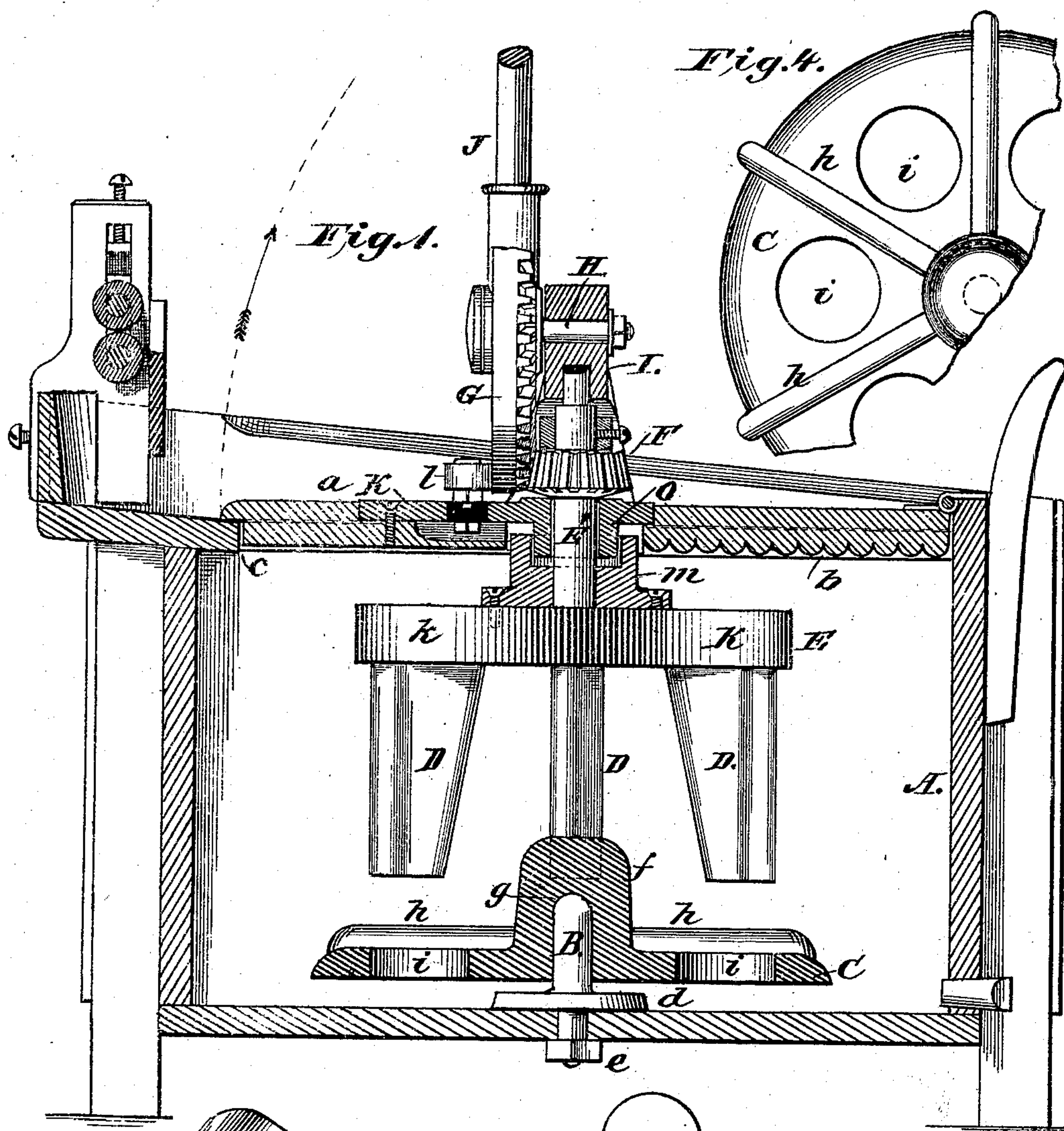


Fig. 4.

Fig. 1.

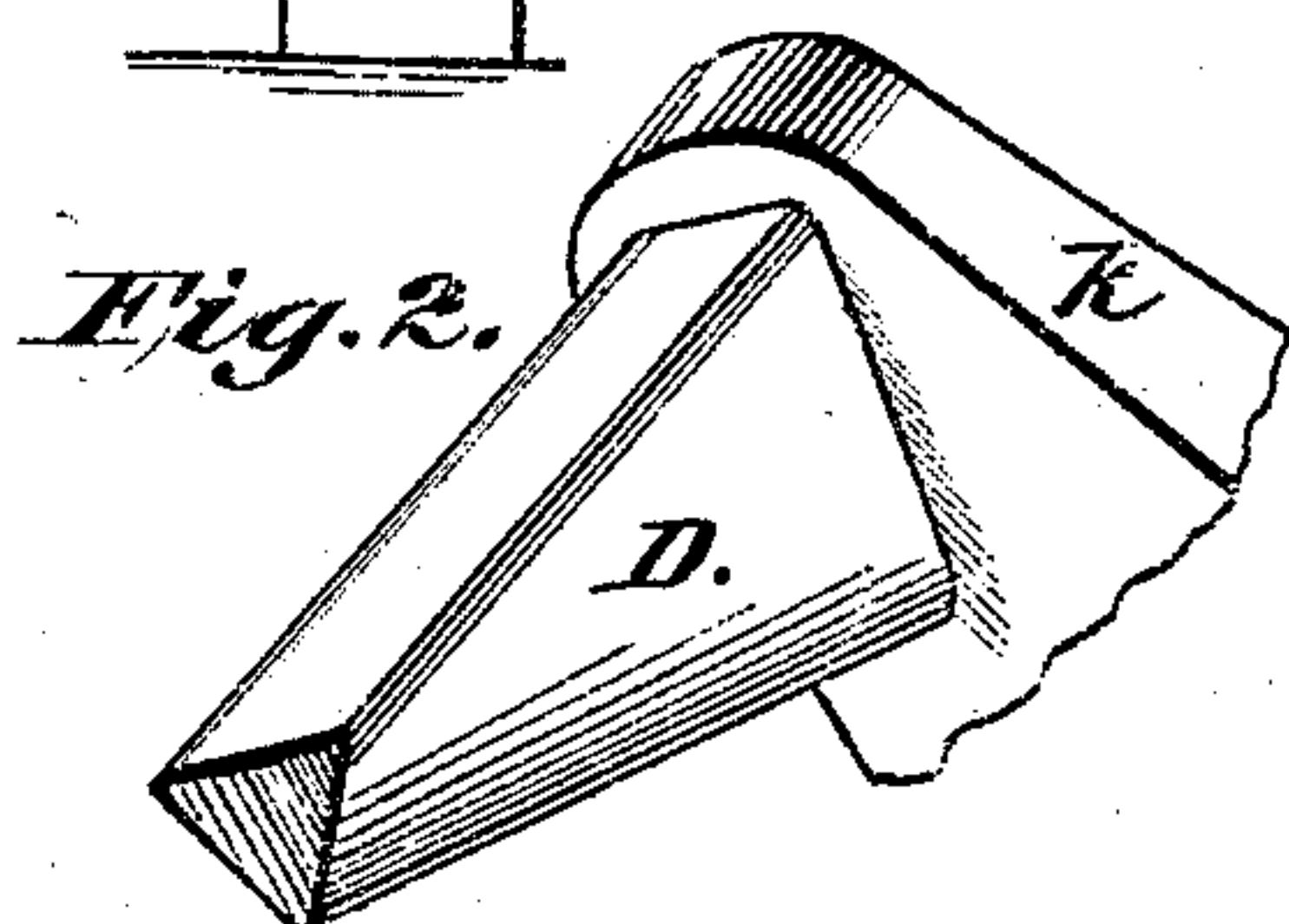


Fig. 2.

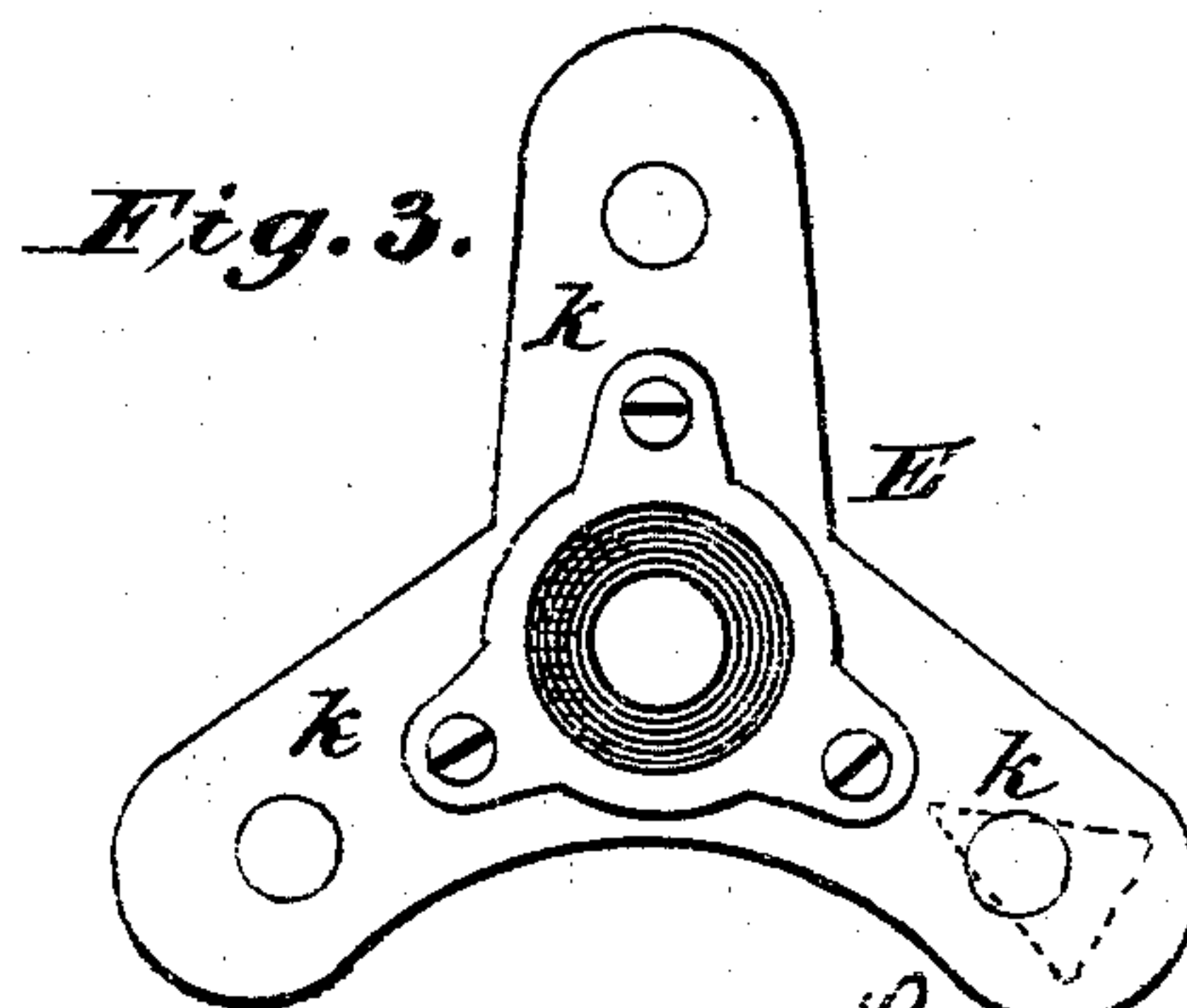


Fig. 3.

Witnesses.

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LEVIS H. DAVIS, OF WEST CHESTER, PENNSYLVANIA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **143,225**, dated September 30, 1873; application filed August 9, 1873.

To all whom it may concern:

Be it known that I, LEVIS H. DAVIS, of West Chester, in the county of Chester and State of Pennsylvania, have invented an Improved Washing-Machine, of which the following is a specification:

This invention relates to certain improvements in machines for washing clothes, the object of which is to dispense with the usual rubbing or friction upon or between hard surfaces. To this end the invention consists of a carrier or clothes-supporter composed of a disk, and preferably having a series of ribs on its upper surface with an opening between each pair of ribs, said carrier having a central socket and poised or supported upon a vertical standard, so as not to be in contact with the bottom of the vessel or box. The invention further consists of an agitator suspended from a vertical shaft within the vessel, and possessing a series of triangular-shaped beaters having inclined sides for a purpose hereinafter stated. The invention further consists of a construction and combination of parts, which are fully described hereafter.

In the drawings, Figure 1 represents a vertical central section of a washing-machine constructed according to my invention. Fig. 2 is a detached view of one of the beaters attached to a portion of the agitator; Fig. 3, a detached top view of the agitator. Fig. 4 is detached view of a portion of the carrier.

The vessel A is in the present instance of a rectangular form, but it is evident that it may be of any suitable shape. The lid or top *a* is hinged at one end of the upper edge of the vessel, and when closed is supported upon cleats or shoulders *b* on the sides of the vessel, and by a projecting portion, *c*, at the front end. The sides of the box and front end extend above the surface of the lid *a* for preventing the water escaping through the top from spilling, and to cause it to re-enter the vessel, and at one end of the latter may be arranged a suitably-constructed wringer, as shown. Near the center of the box is secured a vertical post or standard, B, which, in the present instance, is provided with a collar, *d*, and its lower end projects through the bottom of the vessel and is screw-threaded to receive a nut, *e*, to hold it firmly in position. Upon

this standard B is poised or supported a clothes-carrier, C, having an extended hub, *f*, in which is a socket, *g*, to receive the end of the standard, which latter so supports the carrier C that it will be a short distance from the bottom of the vessel, the object of which is to prevent the two surfaces rubbing together, and consequent wear of the parts. The upper end of the standard B may be provided with a recess for the reception of oil for lubricating purposes. The carrier is composed of a disk having radial ribs *h* and an opening, *i*, between each pair of ribs, as shown. The letter E represents the agitator, which is composed of three branching arms, *k*, (more or less,) from the lower sides of which project beaters D, which are of a triangular shape, and have their corners rounded, so as not to injure the clothing, and their sides inclined or diminishing in size toward their lower ends. These beaters are attached to the radial arms *k*, so as to present the sharpest angle toward the center of the agitator. To the upper sides of the agitator E is attached a cup or journal, *m*, having in its upper end a recess for the reception of oil, and in this cup is secured a vertical shaft, *E'*, having near its upper end a beveled pinion, F, retained in place by a set-screw, as shown, and which engages with a segmental rack, G, supported in position by means of a journal or spindle, H, which latter is fixed in the upper portion of the cap-piece I. The rack G is provided with a lever or arm, J, for operating it, and is kept in gear with the pinion F by a friction-wheel, *l*. The surface of the cup *m* is circular, and works in an annular recess near the middle of the lid *a*, by which means the agitator is steadied and retained in a true position. The shaft E passes up through the bottom of a cap-piece, K, secured to the lid *a*, said cap-piece having a downwardly-projecting hub, *o*, which enters the recess in the cup *m*, thus producing a water-friction connection between the agitator and steady-cap.

The operation of the machine is as follows: The lid *a* is raised up and the clothes to be cleaned placed within the vessel A upon the carrier C, and the lid lowered. Motion is then communicated to the agitator by the rack and pinion G F through the lever J, and imparts

a motion from right to left to the agitator, the beaters of which, extending down near to the carrier C, catch the clothes, and the motions are such that the tendency of the clothes is toward the sides of the vessel, while that of the water is toward the center of motion, owing to the action of the beaters, by which means the clothes are effectually cleansed without the usual method of rubbing them between hard surfaces, which greatly injures the clothing.

I claim as my invention—

1. The carrier C, having socket *g*, and loosely poised upon the standard B, in the manner and for the purposes specified.

2. The triangular-shaped beaters D, having inclined surfaces, as described, and secured upon the agitator E, substantially as described, for the purpose specified.

3. The agitator E, having the beaters D, formed with inclined sides and rounded corners, in combination with the cup *m*, shaft E', pinion F, gear-wheel G, and the carrier C, all arranged and operating substantially as and for the purpose specified.

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Witnesses:

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