

No. 729,373.

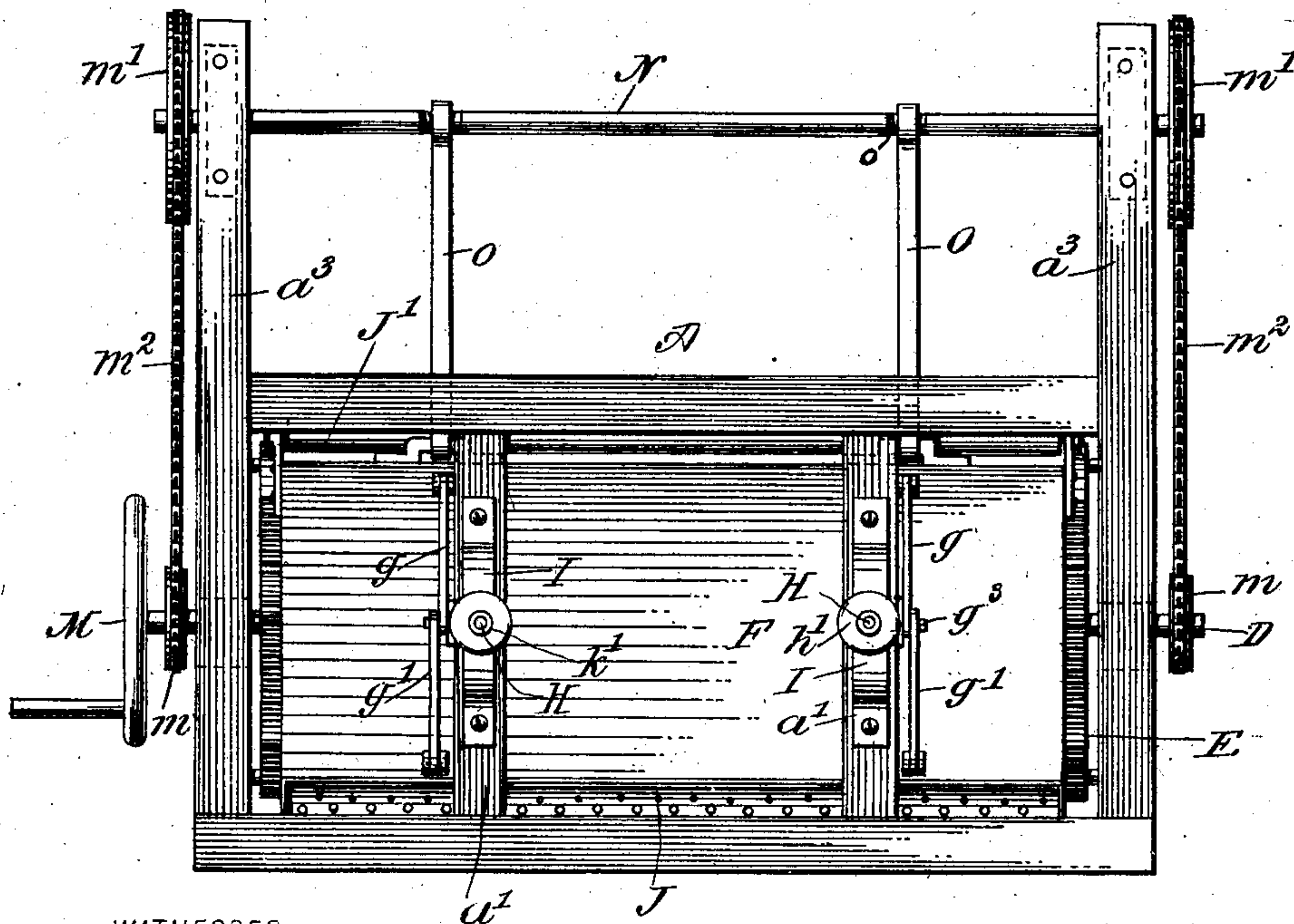
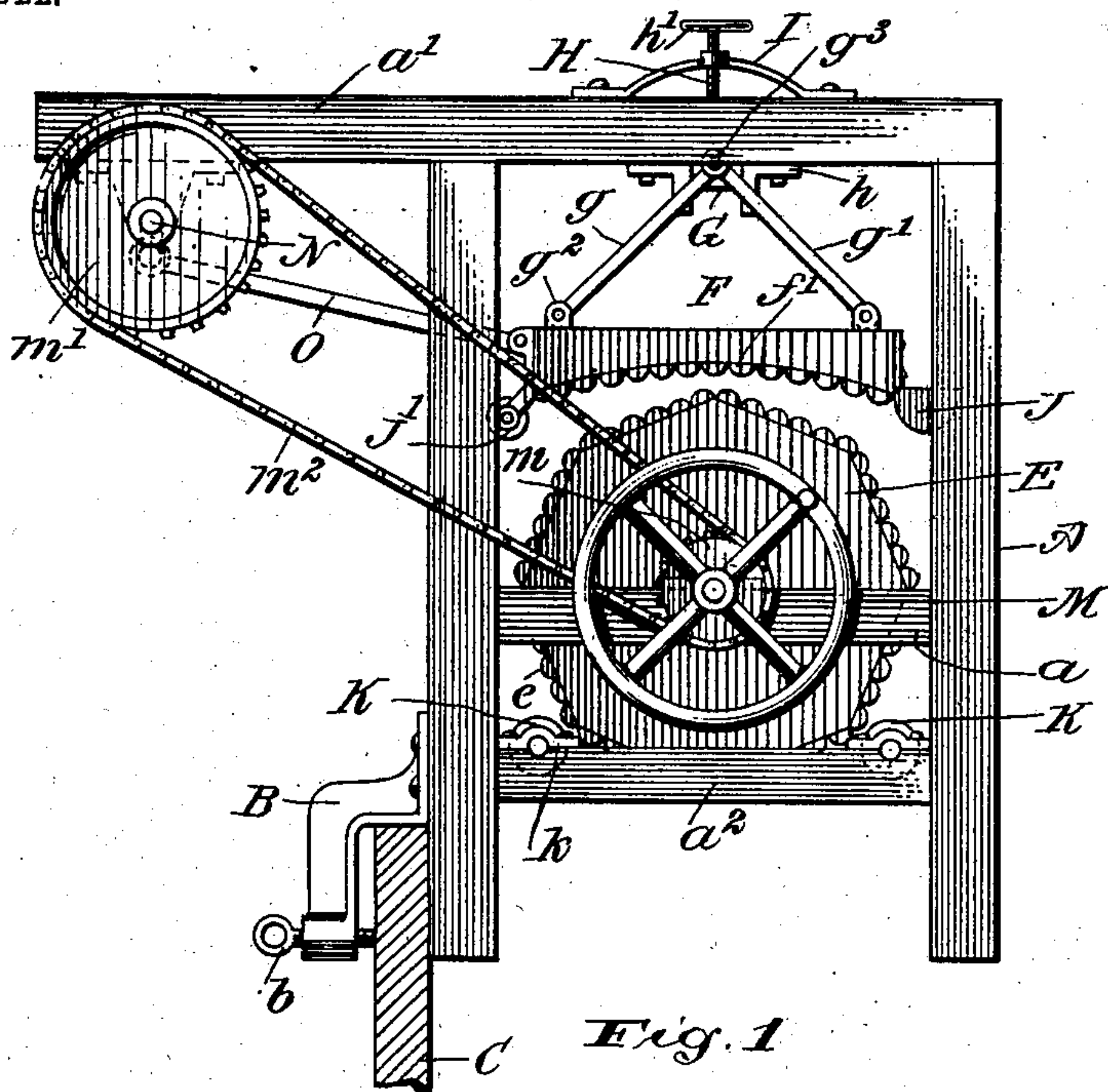
PATENTED MAY 26, 1903.

I. MARKS.
WASHING MACHINE.

APPLICATION FILED FEB. 3, 1903.

NO MODEL.

2 SHEETS—SHEET 1



WITNESSES:

John A. Berghart
H. J. Berghart

Fig. 2

INVENTOR

Isaac Marks

BY

Mum

ATTORNEYS.

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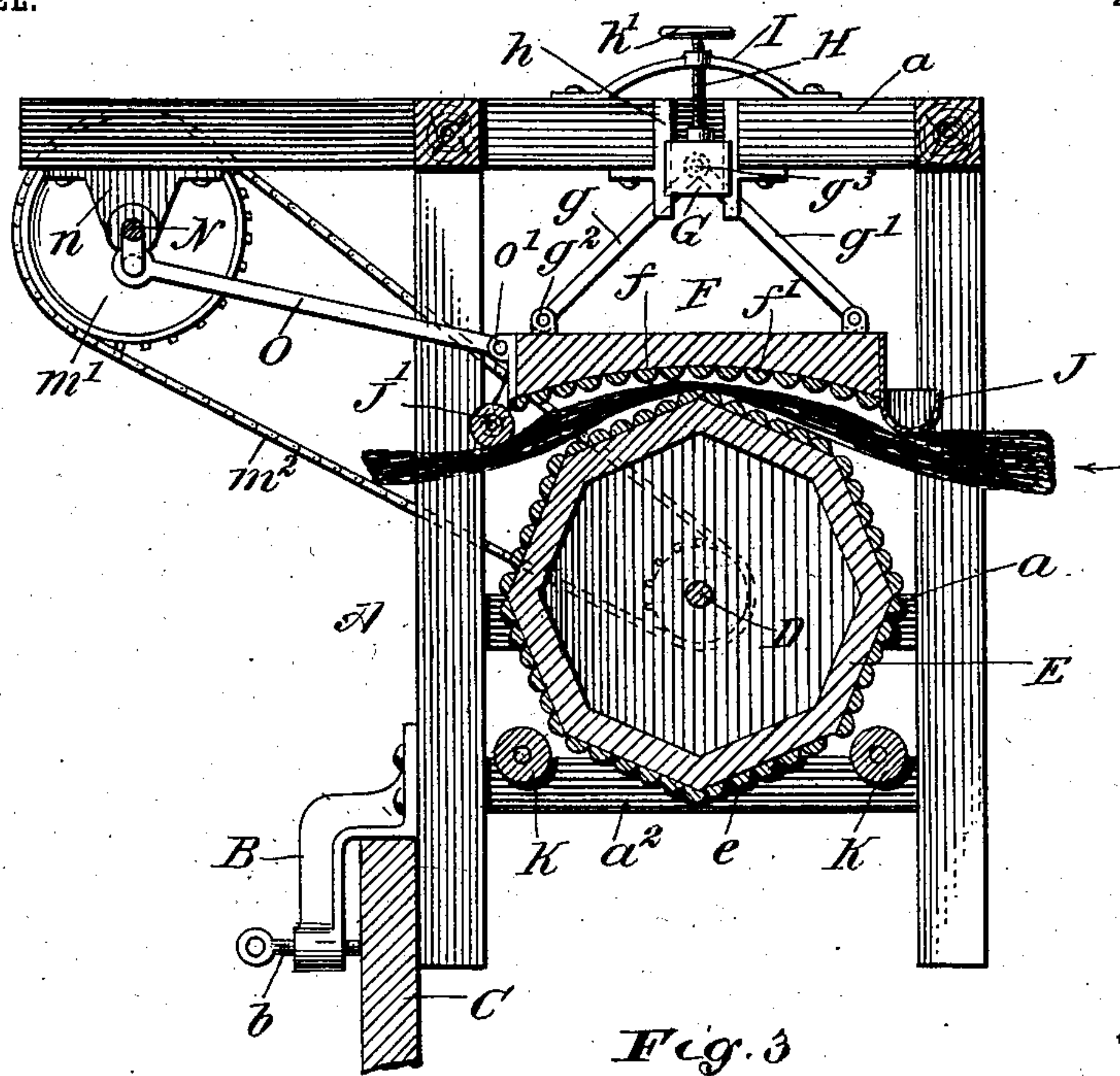


Fig. 3

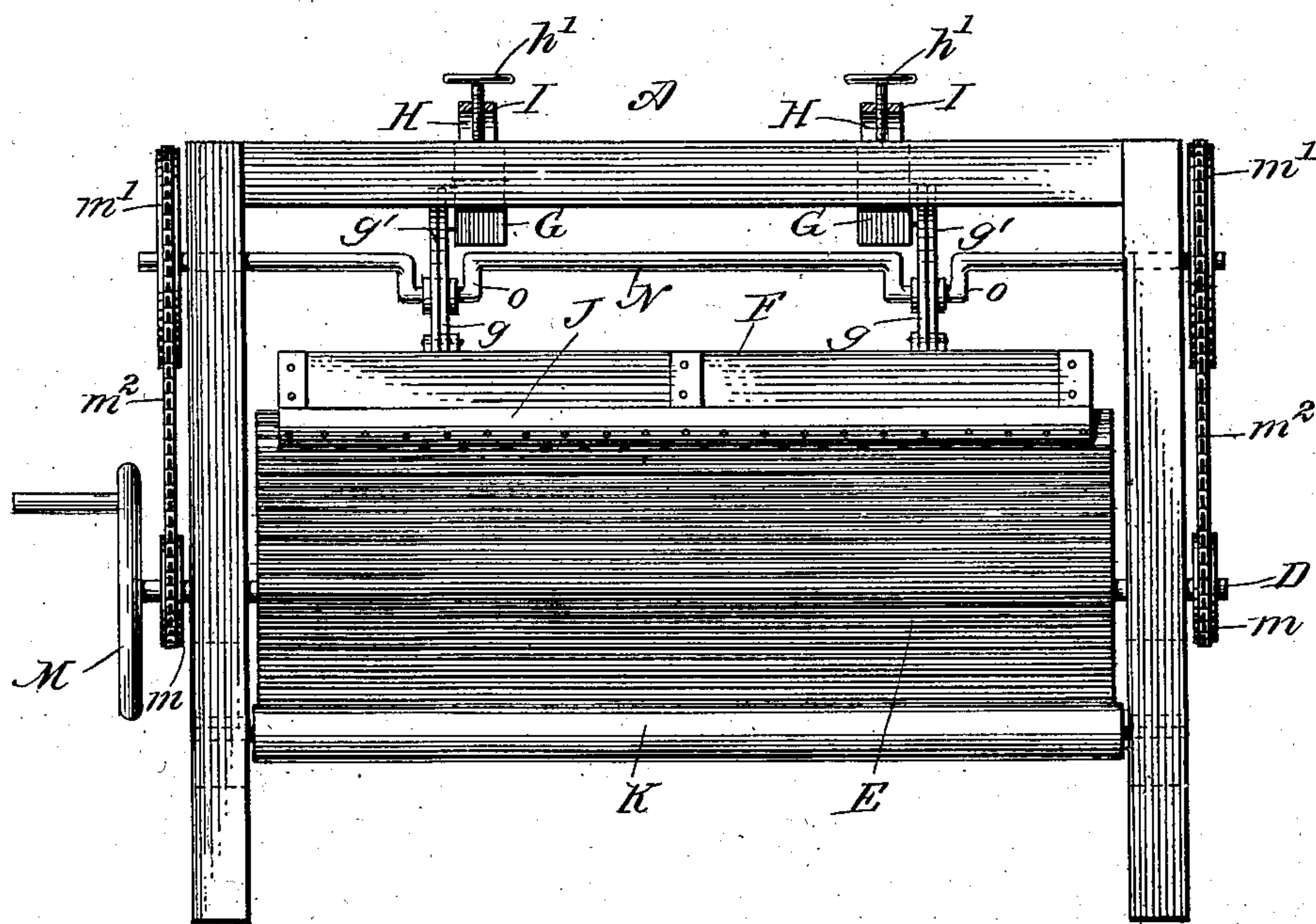


Fig. 4

WITNESSES:
John A. Thompson
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INVENTOR
Isaac Marks
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

ISAAC MARKS, OF NEW YORK, N. Y.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 729,373, dated May 26, 1903.

Application filed February 3, 1903. Serial No. 141,643. (No model.)

To all whom it may concern:

Be it known that I, ISAAC MARKS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Washing-Machine, of which the following is a full, clear, and exact description.

This invention relates to improvements in machines for washing fabrics, such as clothes; and the object that I have in view is the provision of a simple, cheap, and efficient contrivance adapted to be fastened in place on a suitable vessel and to be operated by hand for the purpose of subjecting the fabrics to a rubbing action in order to eliminate dirt therefrom.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelty will be defined by the annexed claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an end elevation showing my invention applied to a portion of a washtub or other suitable vessel. Fig. 2 is a plan view of the machine. Fig. 3 is a vertical cross-section through the middle portion of the machine, and Fig. 4 is a side elevation looking at that side of the machine into which the fabrics are fed.

In carrying my invention into practice I employ a frame A of any suitable construction. This frame is equipped on one side with angular brackets B, having clamping-screws *b* mounted therein and adapted to impinge a wall of any suitable kind of receptacle—such, for example, as a washtub, (indicated in a fragmentary way at C in Figs. 1 and 3.) The frame is also equipped with cross-rails *a*, which are furnished with suitable bearings (not shown) to accommodate the shaft D of a primary rubbing drum or cylinder E. Said drum may be of any suitable form, but as shown by the drawings the drum is hexagonal in cross-section. The drum is provided with a working face, preferably of corrugated form, as at *e*. This corrugated surface may be provided in any suitable way on the surface of the drum, but as

shown the flat faces of said drum have slats secured thereto to form a rubbing-surface. With the drum E coöperates a reciprocatory rubber F, which is disposed above or in overhanging relation to said drum. This rubber has a curved under surface *f*, which is covered by a rubbing-surface *f'*, formed by slats or otherwise, the active surface of the said rubber being presented in opposing relation to the corrugated surface of the revoluble drum. Said rubber is suspended over the drum by pairs of links *g g'*, which are pivoted at *g*² to the rubber. The links *g g'* of each pair converge upwardly toward a vertically-adjustable bearing G, each pair of links being pivotally connected at *g*³ to one of said bearings. Two of the bearings G are employed, and they are fitted slidably in vertical guides *h*, attached to upper cross-bars *a'* of the frame A, said guides serving to limit the bearings G to movement in a vertical plane and toward or from the rubber and the drum. The bearings G are suspended by adjusting-screws H from springs I, said springs being mounted on or connected with the cross-bars *a'* in any suitable way, so that the springs will yield or give in vertical directions. The screws H have threaded bearings in the springs I, the lower ends of said screws being loosely connected in an appropriate way to the bearings G, while the upper ends of the screws are equipped with hand-wheels *h'* for the convenient manipulation of the screws. It will be understood that the rubber F is suspended by the screws and the springs in adjustable and yieldable relation to the revoluble drum, and the pressure exerted by the springs may be regulated by varying the position of the rubber with relation to the drum.

The rubber F is provided at one side with a longitudinal depending trough J, the same being secured to an edge portion of the rubber and having its bottom perforated, as shown by Figs. 2 and 4. This trough is adapted to contain a saponaceous substance which is supplied to the fabrics as they are fed into and pass through the space between the coöperating drum and rubber. The rubber is equipped on the opposite side from the trough J with a roller J', loosely journaled in suitable bearings secured to an edge of said

rubber, said roller being arranged to ride upon the fabrics after they pass through the rubber and the drum. To prevent the fabrics from catching in the space between the frame and the drum, I employ idle guide-rollers K, disposed on opposite sides of the vertical plane of the axis of the drum, said rollers being journaled in suitable bearings k , attached to lower cross-bars a^2 of the frame.

10 The drum-shaft D is extended at its ends beyond the sides of the frame, said end portions of the shaft being equipped with sprocket-gears m and one end of the shaft having a crank-wheel M, thus making provision for the rotation of the drum by hand.

15 The cross-bars a^3 at the upper part of the frame are extended beyond one side thereof, as shown by the drawings, for the reception of the bearings n , which accommodate an intermediate shaft N, the latter being provided with sprocket-gears m' , arranged in alinement with the corresponding gears m on the drum-shaft, and these gears m m' are connected in pairs by endless sprocket-chains m^2 , where-

25 by the drum-shaft and the intermediate shaft are geared together. It will be understood, however, that other forms of gearing may be used in lieu of the sprocket-chain gearing herein shown. The intermediate shaft N is

30 provided with cranks o , to which are loosely connected the pitmen O, the same having pivotal connection at o' with an edge portion of the rubber F, and the rotation of this shaft operates the cranks o in a way to impart reciprocating motion to the rubber F through the pitmen O. It will be understood that the rubber is given a traversing movement over the drum by the crank-shaft N, which is driven from the drum-shaft D.

35 In the operation of my invention the clamps B and the frame A are fitted to an edge portion of a vessel C and the screws b are turned for the purpose of holding the frame A in a stationary position on the vessel and in over-

40 hanging relation thereto. The fabrics should be soaked in water and soap over night or for a suitable length of time, and I prefer to attach the machine to the tub or vessel which contains the saturated clothes. A suitable

45 quantity of soap is placed in the trough J, the screws H are rotated to properly adjust the rubber with relation to the drum, and the crank-wheel M is rotated by hand for the purpose of imparting rotary motion to the drum

50 and reciprocating motion to the rubber. The

fabrics are introduced by hand below the trough J and into the space between the opposing faces of the rubber and the drum, and said fabrics are caught by the corrugated surfaces of the rubber and drum, so that they will be carried over the drum and subjected to the rubbing action of said drum and the rubber, thus eliminating the dirt and water from the fabrics and allowing them to emerge from the machine in a clean condition. Any suitable receptacle may be placed adjacent to the delivery end of the machine for the purpose of catching the clean fabrics.

It is evident that the machine may be operated by power instead of by hand.

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

1. A machine of the class described, comprising a frame, a drum, adjustable bearings slidable on the frame, a rubber, links pivoted to the bearings and the rubber for suspending the latter relatively to the drum, means for adjusting the bearings, and driving devices for said rubber and the drum.

2. A machine of the class described comprising a frame, a drum, springs mounted on the frame, a rubber, means connecting said rubber with said springs and suspending said rubber yieldably with relation to the drum, means for varying the tension of the springs, and driving devices for the drum and the rubber.

3. A machine of the class described, comprising a frame, a drum, springs mounted on the frame, bearings slidable on the frame, screws connected to the springs and the bearings, a rubber suspended from the bearings, and driving devices for the rubber and the drum.

4. A machine of the class described, comprising a frame, a drum mounted therein, adjustable bearings guided on said frame, springs supported by the frame, adjusting-screws connected with the bearings and the springs, a rubber in overhanging relation to the drum, and links pivoted to the rubber and to said bearings.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ISAAC MARKS.

Witnesses:

JNO. M. RITTER,
H. T. BERNHARD.