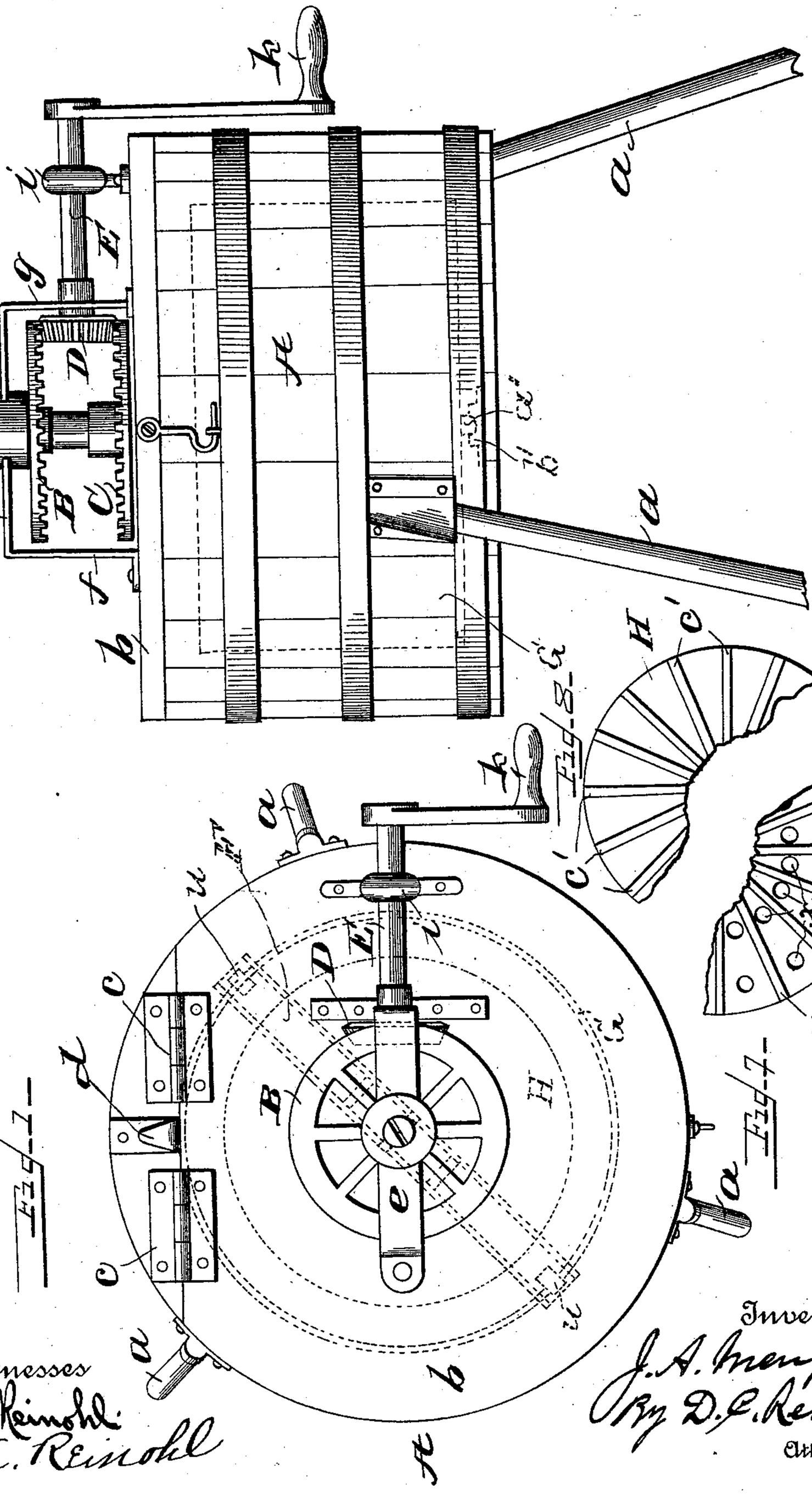
(No Model.)

2 Sheets—Sheet 1.

J. A. MENGEL.

WASHING MACHINE.

No. 521,506. Patented June 19, 1894.



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(No Model.) 2 Sheets—Sheet 2.

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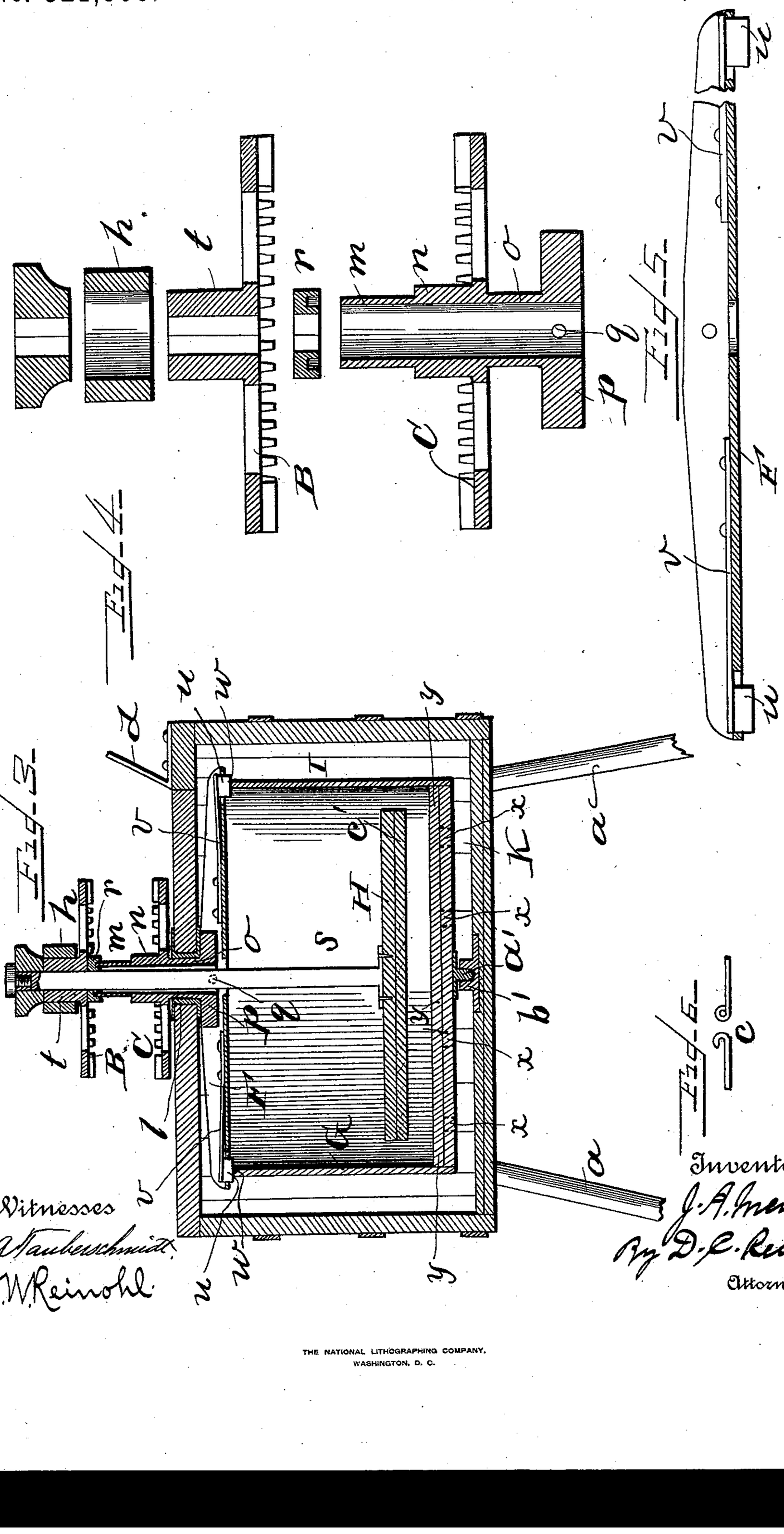

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH A. MENGEL, OF McKEANSBURG, PENNSYLVANIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 521,506, dated June 19, 1894.

Application filed August 29, 1893. Serial No. 484,305. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. MENGEL, a citizen of the United States, residing at McKeansburg, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Washing-Machines; 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.

My present invention relates to washing-machines, has especial reference to that class of machines known as rotary washing-machines, and has for its object certain improvements in construction which will be fully disclosed in the following specification and claims.

In the accompanying drawings which form part of this specification Figure 1 represents a top plan view; Fig. 2 a side elevation; Fig. 3 a vertical section; Fig. 4 an enlarged detail sectional view of the operating mechanism; Fig. 5 a vertical longitudinal section of the bar which engages the inner tub; Fig. 6 a detail of the hinge; Fig. 7 a top plan view of a section of the bottom of the tub, and Fig. 8 an inverted plan of a section of the rubber.

Reference being had to the drawings and the letters thereon A indicates an outer stationary tub supported upon suitable legs *a a a*, and is provided with a cover *b* shown secured by detachable or separable hinges *c c* so that it may be readily removed and again secured in position on the tub, or it may be secured in any desirable manner. When thrown back upon its hinges the cover *b* rests upon a support *d*. On the upper surface of the cover is a bracket *e* having two legs *f g*, and a boss *h* in the center of the horizontal bar of the bracket, and between the legs of the bracket are two horizontal master gear-wheels B, C, lying in parallel planes and having teeth on their adjacent or inner surfaces; and between said gear-wheels and engaging therewith is a pinion D mounted upon a shaft E which is supported at its inner end in leg *g* of the bracket *e* and near its outer end in a bracket *i* and is provided with a crank *k*. The lower gear-wheel C rests upon a metallic bearing-plate *l* and is provided with a sleeve *m* which extends upward from the hub *n* and with a sleeve *o* which extends downward through the cover *b*, and is provided at its lower end with a head *p* to which the bar F is pivotally secured at *q* to vibrate vertically with the revoluble tub G with which said bar engages. Upon the upper end of the sleeve *m* rests a loose collar *r* which is provided with a square opening to receive the shaft *s* of the revoluble rubber H, and upon said collar rests the hub *t* of the gear-wheel B; the hub *t* is also provided with a square opening through which the shaft *s* passes and is revolved thereby. The sleeves *m* and *o* are provided with cylindrical openings of greater diameter than the shaft *s*, so that the shaft may revolve freely therein without engagement with the sleeves. The bar F is open on its upper side and is provided at each end with a latch *u*, which latches are secured to leaf springs *v v* to force the latches down into the notches *w w* in the upper edge of the tub G. The bottom of the tub G is perforated to admit water thereto, as shown at X in dotted lines in Fig. 3 and on the inner surface of the bottom are rubbers formed of strips of wood *y y*. The tub is provided with a pintle *a'* which rests in a step *b'* in the bottom of the outer tub and upon which the tub revolves. The rubber H consists of a disk, preferably of wood having radial strips *c'* on its inner surface and the rubber is vertically adjustable in the tub G, so that the rubber will adjust itself to any quantity of cloths in the tub. The tub G and the rubber H revolve in opposite directions, and in the use of the machine the crank *k* is turned in one direction a suitable number of revolutions and is then reversed and turned in the opposite direction thus also reversing the motion of the tub and the rubber. The centrifugal force of the revolving tub G causes it to rock or sway in its revolutions which necessitates the vertical vibratory motion of the bar F to keep the latches *u u* in engagement with the notches *w w* in the tub. The annular chamber I around the tub G and the space K below the tub afford ample water-space and the water is kept in constant circulation through the cloths being washed.

Having thus fully described my invention, what I claim is—

1. A washing-machine, comprising an outer

stationary tub provided with a cover, an inner revoluble tub communicating with the outer tub and a revoluble and vertically adjustable disk rubber, in combination with mechanism supported upon the cover of the outer tub for revolving said inner tub and rubber in opposite directions.

2. In a washing-machine, the combination of an outer tub, an inner revoluble tub, communicating with the outer tub, a transverse bar engaging the upper edge of the inner tub and connected to a revoluble sleeve extending through the cover of the outer tub, a vertically adjustable and revoluble rubber and suitable gearing to revolve the inner tub and the rubber in opposite directions.

3. In a rotary washing-machine, the combination of an outer tub, an inner revoluble tub, a bar provided with latches engaging the upper edge of the inner tub, a vertically adjustable and revoluble rubber provided with a shaft extending through the cover of the tub, a pair of horizontal gear-wheels connected respectively to the inner tub and the rubber and a pinion intermediate said gear wheels.

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

JOSEPH A. MENGEL.

Witnesses:
HARRY W. SHAPPELL,
HARRY M. ZULICK.