

No. 645,046.

Patented Mar. 6, 1900.

W. J. ALEXANDER.
WASHING MACHINE.

(Application filed Aug. 4, 1898.)

(No Model.)

2 Sheets—Sheet 2.

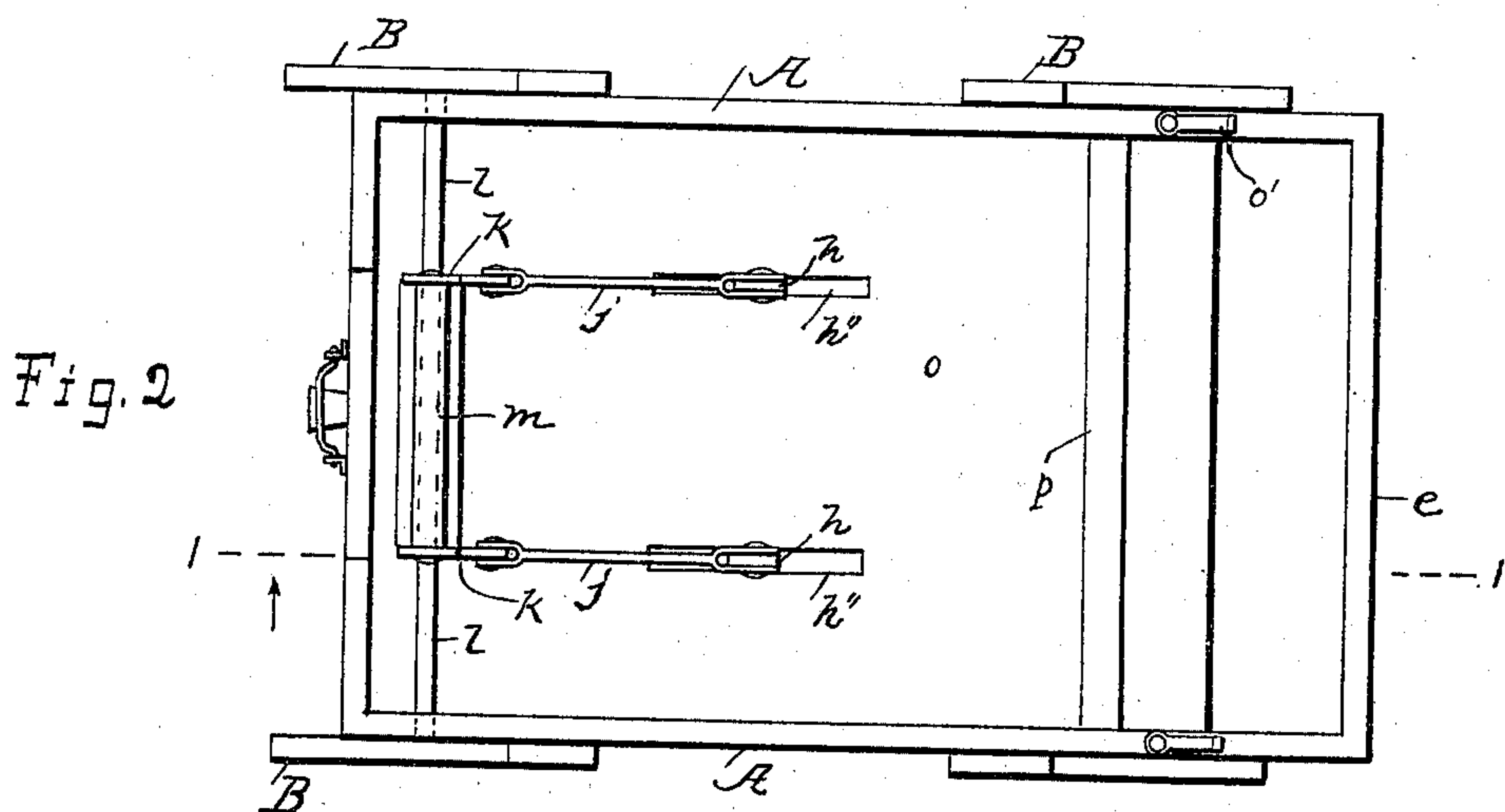


Fig. 3

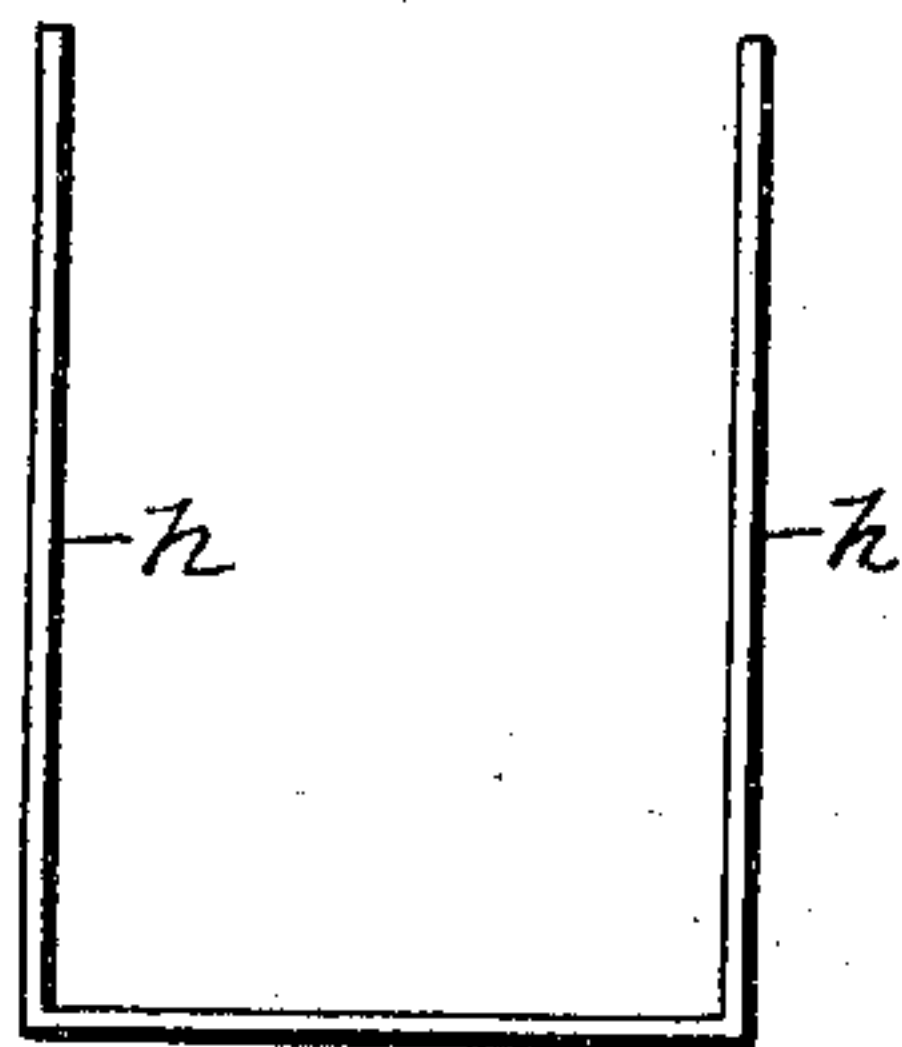
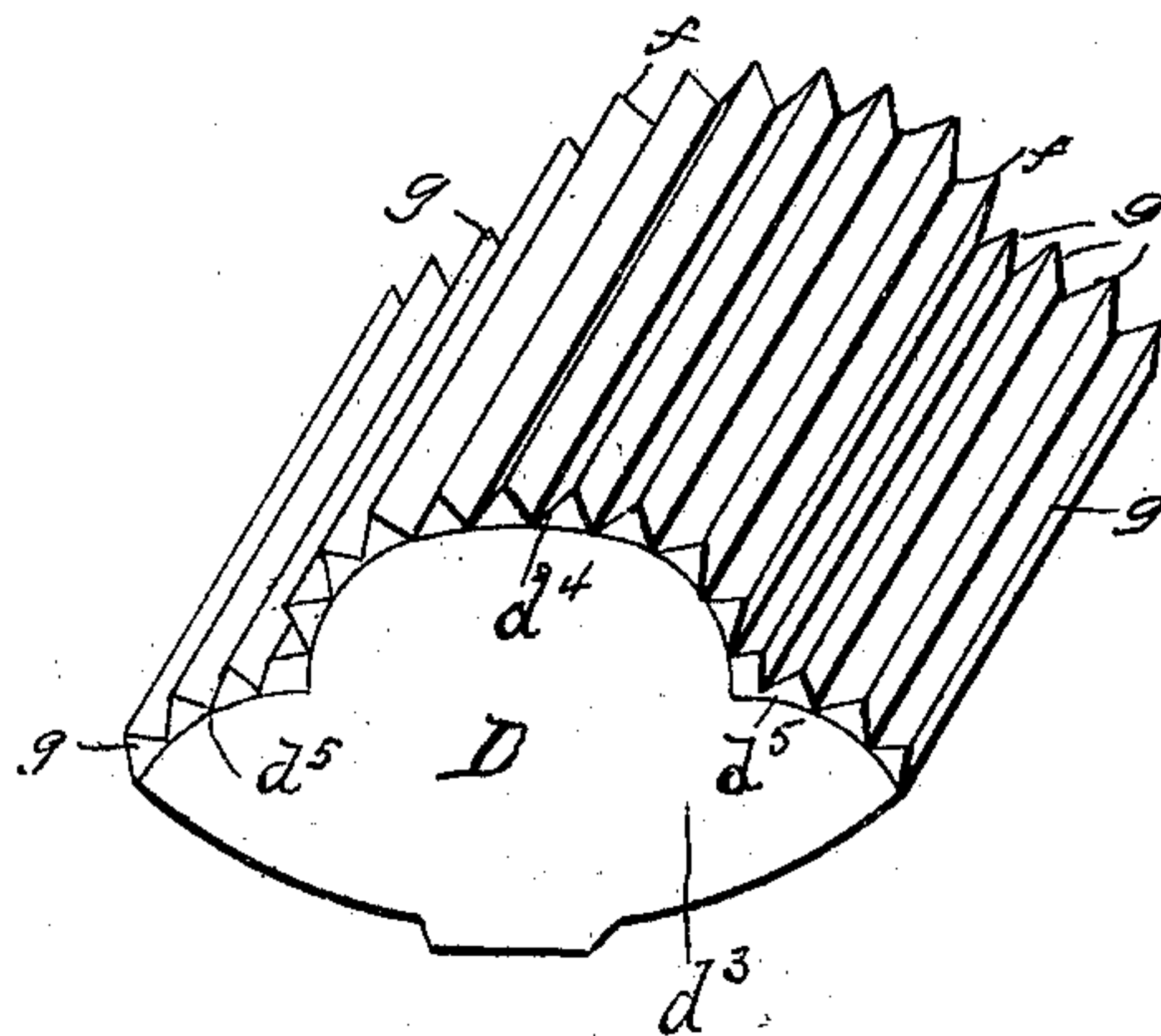


Fig. 4



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM J. ALEXANDER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF
ONE-FOURTH TO JAMES S. ALEXANDER, OF SAME PLACE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 645,046, dated March 6, 1900.

Application filed August 4, 1898. Serial No. 687,715. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. ALEXANDER, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny 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 thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to washing-machines, its object being to improve the construction of such machines whereby they will be rendered more efficient in operation and permit the articles to be washed to be readily placed therein or removed therefrom.

The invention consists of the several details of construction and arrangement of parts, as will be hereinafter fully described in the specification and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view of a washing-machine made in accordance with my invention on the line 1 1 of Fig. 2. Fig. 2 is a plan view of the same. Fig. 3 is a front elevation of the yoke forming the levers attached to and operating the rubber and clothes-shifting device. Fig. 4 is a perspective view of the combined rubber and shifter.

To construct a washing-machine in accordance with my invention, I provide a rectangular box A, having an open top and fitted with a metallic bottom constructed and so formed as to draw all water to the drain-opening at the front of the machine. This opening is fitted with a plug *d*, having a cross-bar *d'*, by means of which the same may be removed or replaced at will. Arranged at one end of the body of the box A is a portion provided with an inclined base and upwardly-projecting part *e* for the purpose of attaching the wringer thereto and drain the water back into the box A.

In the interior of the box A, a short distance above its bottom, a series of angular bars *b* are supported. These bars extend across the box and form a concave rubbing-surface upon which the articles to be washed

are supported, and each bar is so arranged that it will present an angle opposed to the rubbing-bars *f*, hereinafter referred to. Beneath the bars *b* is a compartment *c*, in which a surplus of hot water is constantly maintained, constituting a heat-retaining chamber to avoid the necessity of changing the water only at long intervals.

Hinged to a transverse bar *l* is a lid or cover *o*, having a downward extension *o''* to close the wringer portion *e* from the body of the machine. This lid *o* is also provided with a handle *p* and means *o'* for holding the same closed.

A rubbing and shifting device D is pivotally suspended within the machine a short distance above the rub-board by means of a substantially U-shaped bail or stirrup *h*. The operating-surface of the rubber is formed by slats *f* and *g*, secured at their ends to the ends of the rubber, said ends of the rubber being curved or scalloped, as shown at *d⁴* and *d⁵*. The main portion of the U-shaped stirrup is secured to the inner surface of the top *d* of the rubber, and the arms project through openings *d⁶* in said top near the ends thereof. The arms also project through slots *h''* in the lid and are pivotally connected at their upper ends to links *j*, which in turn are connected with the handle *k*. The intermediate portion of each of the arms *h* is slotted longitudinally, as at *h'*, through which projects a rod *i*, the ends of which are secured to the under surface of the lid by suitable brackets. The length of the slots *h'* is sufficient to permit of the rubber rising high enough to let a larger or a smaller amount of clothing be placed upon the board below. This combined rubber and shifter is given an oscillating or reciprocating movement by means of the levers *h*, connecting-bars *j*, upright levers *k*, hinged to the same, and bar *l*, to which the lid *o* is connected. These last-mentioned levers *k* are fitted with a horizontal handle-bar *m*, by means of which the operator gives the rubbers *f* and gatherers *g* a reciprocating or oscillating movement.

In operation the clothes or other articles are placed in the box or receptacle A, having first elevated the lid *o* to the position shown

in dotted lines at Fig. 1 of the drawings. The lid *o* is now lowered and secured by the small latches *o'*. The operator by a back-and-forward movement of the handle-bar *m* oscillates the rubber and shifter over the clothes placed beneath. This oscillating movement of the rubber and shifter will at each back-and-forward movement engage with the top piece or garment and shift its position, permitting the rubber and shifter to operate on the piece immediately beneath, and at the end of a few such strokes of the handle-bar the first piece operated upon will be found upon the bars *b*, thus constantly shifting and distributing the several pieces comprising the wash in a manner that each individual part or portion of the wash is alternately brought in contact with the oscillating rubber and shifter above and the stationary bars below, thus quickly and effectually cleaning the clothes.

Particular attention is called to the heat-retaining chamber *c* below the stationary bars *b*, which will keep the water warm for an hour or so.

It is obvious that slight changes in the de-

tails of construction may be made without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The combination, with a suds-box, of a lid hinged thereto at one end and provided in its intermediate portion with two parallel slots, of a rubber in the suds-box, a substantially U-shaped stirrup secured to said rubber, the arms of which are slotted longitudinally and project through the top of the rubber near its ends and also project through the slots in the lid, a bearing upon the under surface of the lid extending through the slotted arms of the stirrup, a handle pivotally secured to the hinge of the lid, and links connecting the handle with the upper ends of the stirrup.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

WILLIAM J. ALEXANDER.

Witnesses:

WM. EVANS,

JAMES S. ALEXANDER.