

No. 812,138.

PATENTED FEB. 6, 1906.

C. L. KELLY.
WASHING MACHINE.
APPLICATION FILED JUNE 13, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

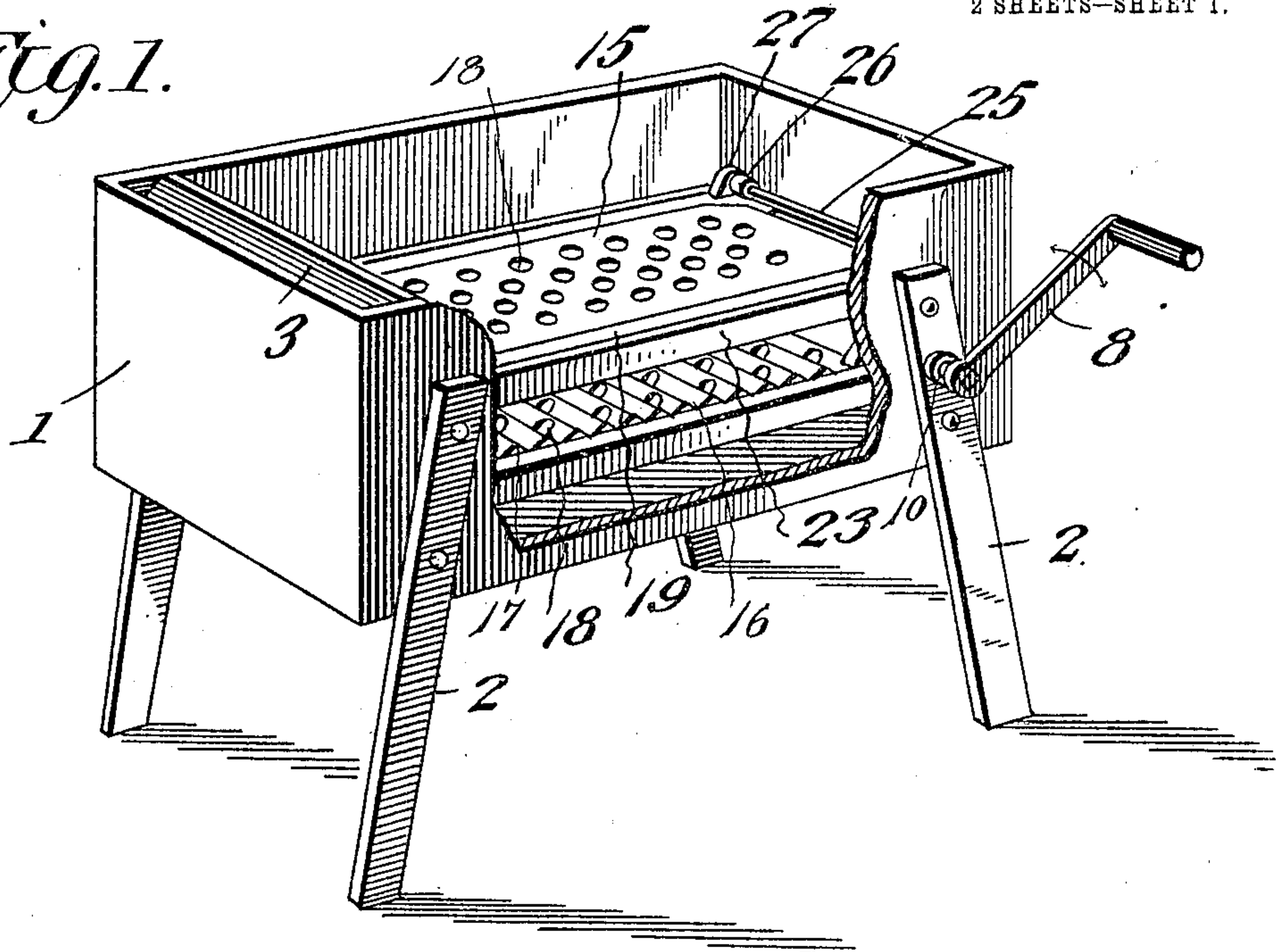
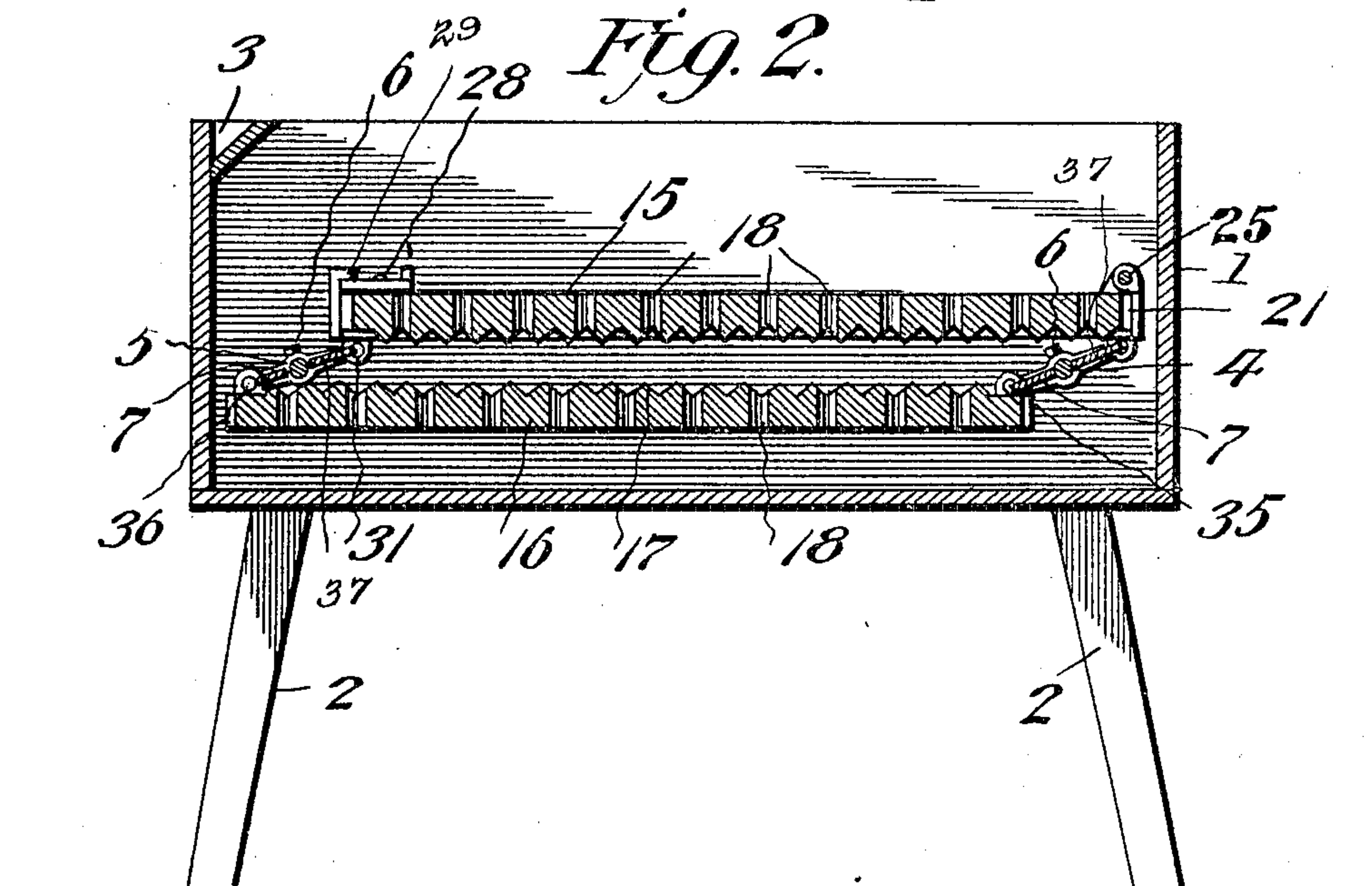


Fig. 2.



Witnesses
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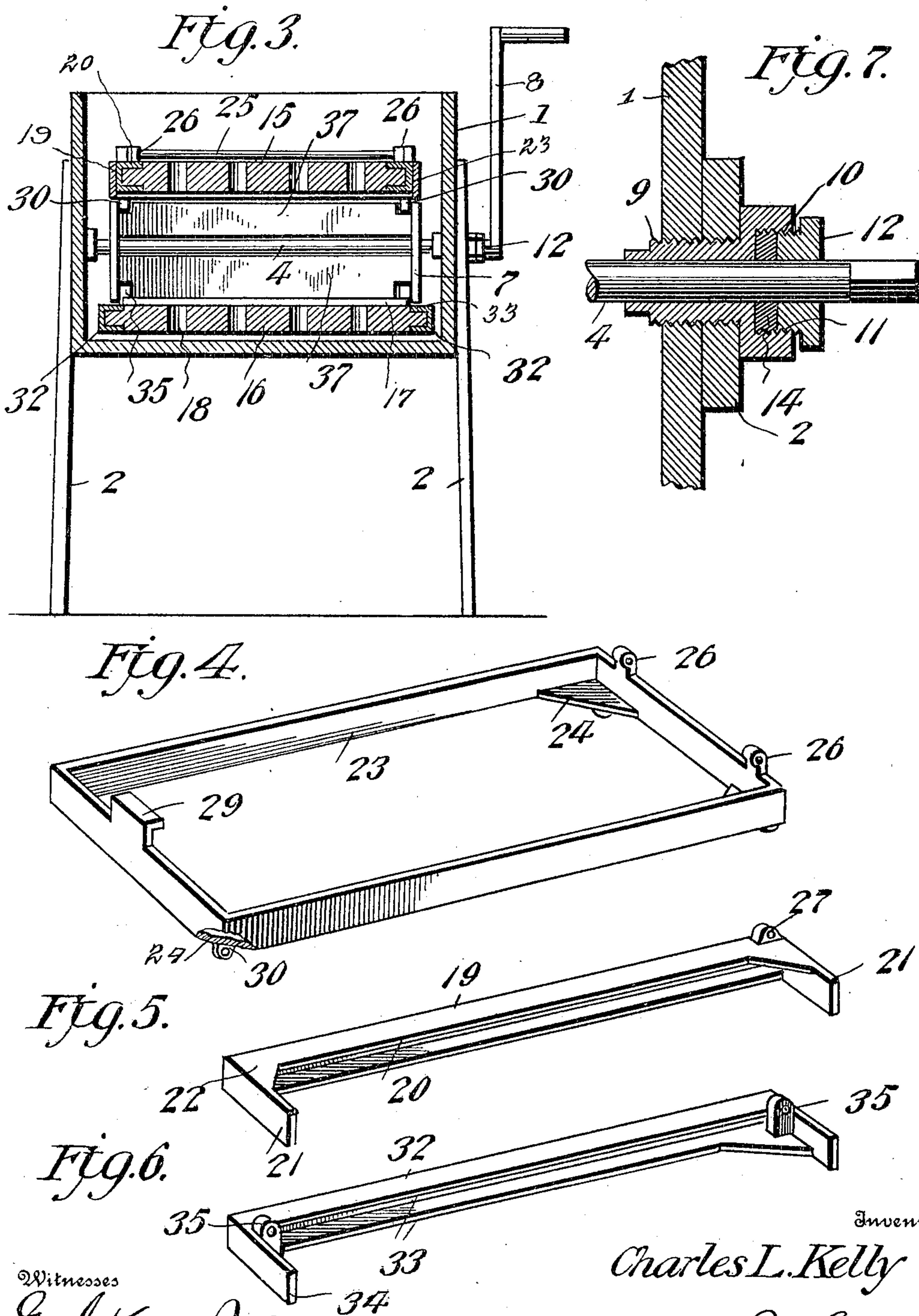
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Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES L. KELLY, OF GRANT, KENTUCKY.

WASHING-MACHINE.

No. 812,138.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed June 13, 1905. Serial No. 265,059.

To all whom it may concern:

Be it known that I, CHARLES L. KELLY, a citizen of the United States of America, residing at Grant, in the county of Boone and State of Kentucky, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to washing-machines, and has for its objects to produce a comparatively simple inexpensive device of this character into which the clothes may be readily introduced, one wherein the clothes will during the washing operation be subjected to a rubbing action and also to pressure, thus forcing the water and suds through the fabric, and one wherein a relatively uniform movement will be imparted to the rubbing members or boards, thereby insuring a uniform action upon and thorough cleansing of the fabric under treatment.

A further object of the invention is to provide a device of this character including a pair of reversely-movable rubbing members or boards having suitably-roughened active faces, one wherein water and suds may readily enter the fabric disposed between the rubbing members, one wherein the latter will be strengthened to prevent splitting, and one wherein the clothes or fabric to be acted upon may be readily introduced or removed from between the boards.

A further object of the invention is to provide a device of this character in which the reversely-movable members are connected for uniform movement, one wherein said members will be actuated by a common actuating-crank, and one wherein the crank-receiving end of the operating-shaft will have a water-tight bearing in the vessel or tub.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a washing-machine embodying the invention. Fig. 2 is a vertical section longitudinally therethrough. Fig. 3 is a vertical transverse section of the same. Fig. 4 is a perspective view of the upper-board-receiving frame. Fig. 5 is a perspective view of one of the side members or bars for the upper board. Fig. 6 is a similar view of one of the side members or bars for the lower board. Fig. 7 is a sectional elevation of the journal for the crank-shaft.

Referring to the drawings, 1 designates a

vessel or tub, preferably of rectangular form, as shown, and sustained by legs 2, there being provided at the rear upper end of the tub a shield 3, these parts all being of any appropriate form and material. Extended transversely of the vessel, adjacent, respectively, its front and rear ends, is a pair of shafts 4 5, journaled for rotation in the side walls of the vessel and each having fixed thereon by set-screws 6 a pair of rocking members or links 7, each engaged at its longitudinal center with the adjacent shaft and extended equally upon opposite sides thereof, the shaft 4 being extended through one side wall of the vessel and having its outer end squared or of other non-circular form for the reception of an operating-crank 8. The crank-receiving end of the shaft 4 is journaled in a tubular bearing sleeve or bushing 9, threaded through the adjacent leg 2 and side wall of the tub and having its end projected slightly beyond the outer face of the latter and terminating in a recess 10 to receive the tubular externally-threaded portion 11 of a coupling member or nut 12, there being disposed between the inner end of nut 12 and the adjacent end of the bearing-sleeve 9 a suitable packing-gasket 14 to create a water-tight joint.

Arranged in vertical spaced relation within the tub or vessel 1 is a pair of coöperating rubbing members or boards 15 16, each having upon its inner active face a series of transversely-disposed ribs 17, preferably of V shape in cross-section, there being formed in each board and between adjacent pairs of ribs transversely-disposed rows of openings or perforations 18, through the medium of which water and suds may enter freely to the clothes or fabrics disposed between the boards. The upper board 15 has applied to its longitudinal edges metal strengthening members or castings 19, each presenting a pair of spaced inwardly-extending flanges 20, between which the adjacent edge of the board is received, and end portions 21, which overlap the ends of the board, there being provided at the corners of each member 19 suitable webs 22, designed to engage the normally outer face of the board at its corners. The upper board 15 seats in a rectangular supporting-frame 23, comprising side and end bars provided at their meeting corners and at the lower edge of the frame with corner-webs 24, on which the board normally rests, said board being hinged to one end of the frame by means of a pintle or rod 25, entered through

perforated ears 26, formed on the frame, and perforated ears or lugs 27, formed on the side members 19, whereby the board may be raised to permit introduction or removal of the clothes to or from position between the boards, the hinged rubbing member or board 15 being normally fixed in closed position by means of a pivoted bolt or latch 28, designed for engagement beneath a flange or keeper 29, formed upon one end bar of the frame 23, which latter is also provided with depending perforated ears or lugs 30 to be engaged by inwardly-projecting trunnions 31, provided on the links 7 for pivotally connecting the latter with the upper rubbing member or board.

The lower rubbing member or board 16 has applied to its longitudinal side edges straightening members or castings 32, presenting a pair of spaced flanges 33, between which the edge of the board is entered and having end portions 34 to overlap the ends of the boards, as in the instance of the board 15 and its straightening members 9, there being formed upon each of the members or castings 32 upwardly-projecting perforated ears or lugs 35, also designed to receive trunnions 36 on the links 7, thus to pivotally connect the lower board 16 with the links.

The member or links 7 have extended therebetween and at opposite sides of the shafts 4 5 closure members or boards 37, attached at their ends in any appropriate manner to the links and designed for closing the ends of the clothes-receiving compartment produced by the rubbing members 15 16 to prevent escape of the clothes or other fabric therefrom.

In practice the clothes to be washed are introduced between the rubbing members or boards 15 16 by swinging the latch 28 from engagement with keeper 29 and turning the board 15 upward on its hinge or pivot, it being understood that after the clothes are cleansed they are removed in a similar manner. After the introduction of the clothes the board 15 is returned to and locked in closed position and the operating-handle 8 is grasped and reciprocated in the direction indicated by the double arrow in Fig. 1, thereby imparting a rocking motion to the shafts 4 and 5 and through the medium of links 7 reciprocating the boards 15 and 16 equally in relatively reverse directions, it being noted that under this operation the boards will not only move longitudinally, but also toward and from each other, whereby the clothes

will be subjected to a rubbing action and an alternate squeezing or compressing action, whereby they will be rapidly and thoroughly cleansed. During the washing operation water and suds will pass freely through the openings 18 to the clothes and when the latter are compressed will likewise pass outward through said openings, it being understood that under the action of the boards 15 and 16 the water and suds will be alternately admitted to and squeezed from the fabric, which is also subjected to a rubbing action, as heretofore stated, thereby rapidly removing the dirt.

From the foregoing it is apparent that I produce a simple inexpensive device admirably adapted for the attainment of the ends in view, it being understood that minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

Having thus described the invention, what I claim is—

1. In a washing-machine, a tub, a pair of rock-shafts journaled therein, links carried by the rock-shafts, a frame pivoted to the normally upper ends of the links and provided with a keeper, a rubbing member pivoted to the normally lower ends of the links, a second rubbing member pivoted at one end of the frame and adapted to swing upward, and a locking member carried by the second rubbing member for engagement with the keeper to lock said member in normal position in the frame.

2. In a washing-machine, a tub, a pair of rock-shafts journaled therein, links fixed upon the shafts to project normally above and below the same, closures extended between the links at opposite sides of the shaft, a frame pivoted to the upper ends of the links and provided with a keeper, a rubbing member journaled to the lower ends of the links, a second rubbing member pivoted in the frame and adapted to swing upward therefrom, a locking member carried by the second rubbing member for engagement with the keeper to lock the member in normally closed position, and means for operating the shafts to reciprocate the rubbing members relatively.

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

CHARLES L. KELLY.

Witnesses:

AL ROGERS,
W. B. ARNOLD.