

No. 606,699.

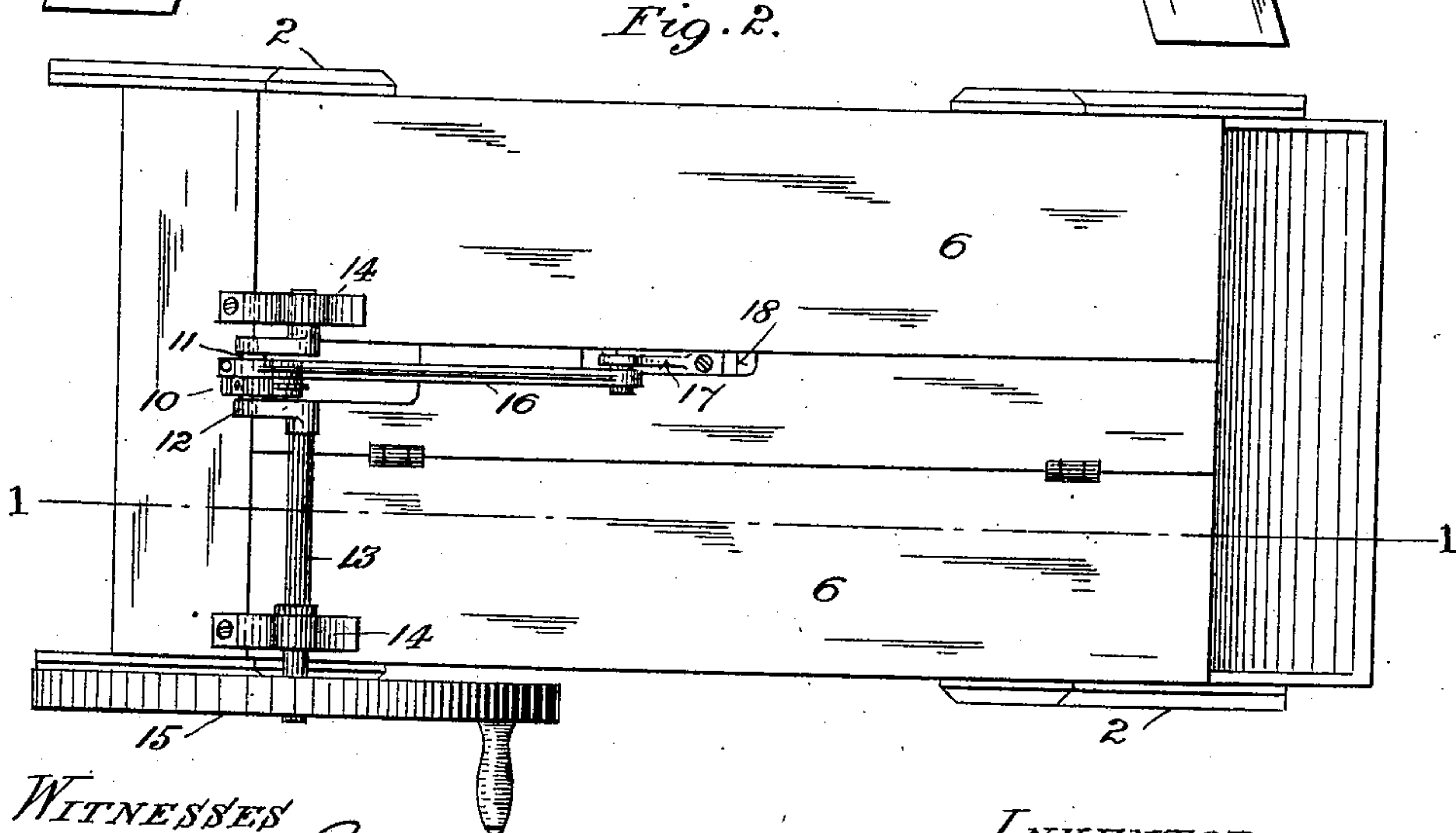
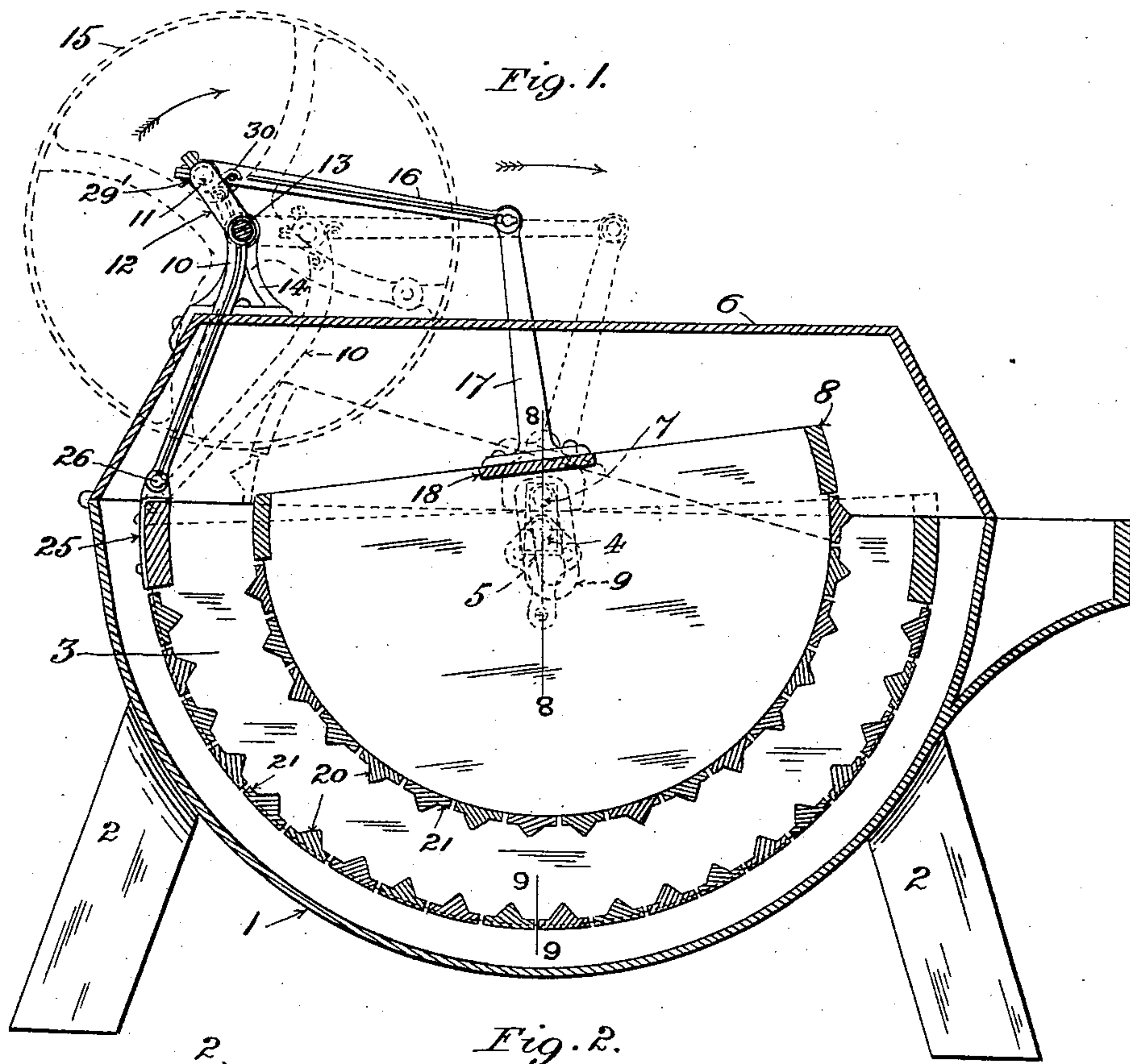
Patented July 5, 1898.

A. C. F. WICHMAN.  
WASHING MACHINE.

(No Model.)

(Application filed Dec. 29, 1897.)

2 Sheets—Sheet 1.



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Geo L. Sutton Jr.

INVENTOR  
A. C. F. Wichman.  
by  
Emil Storer, atty

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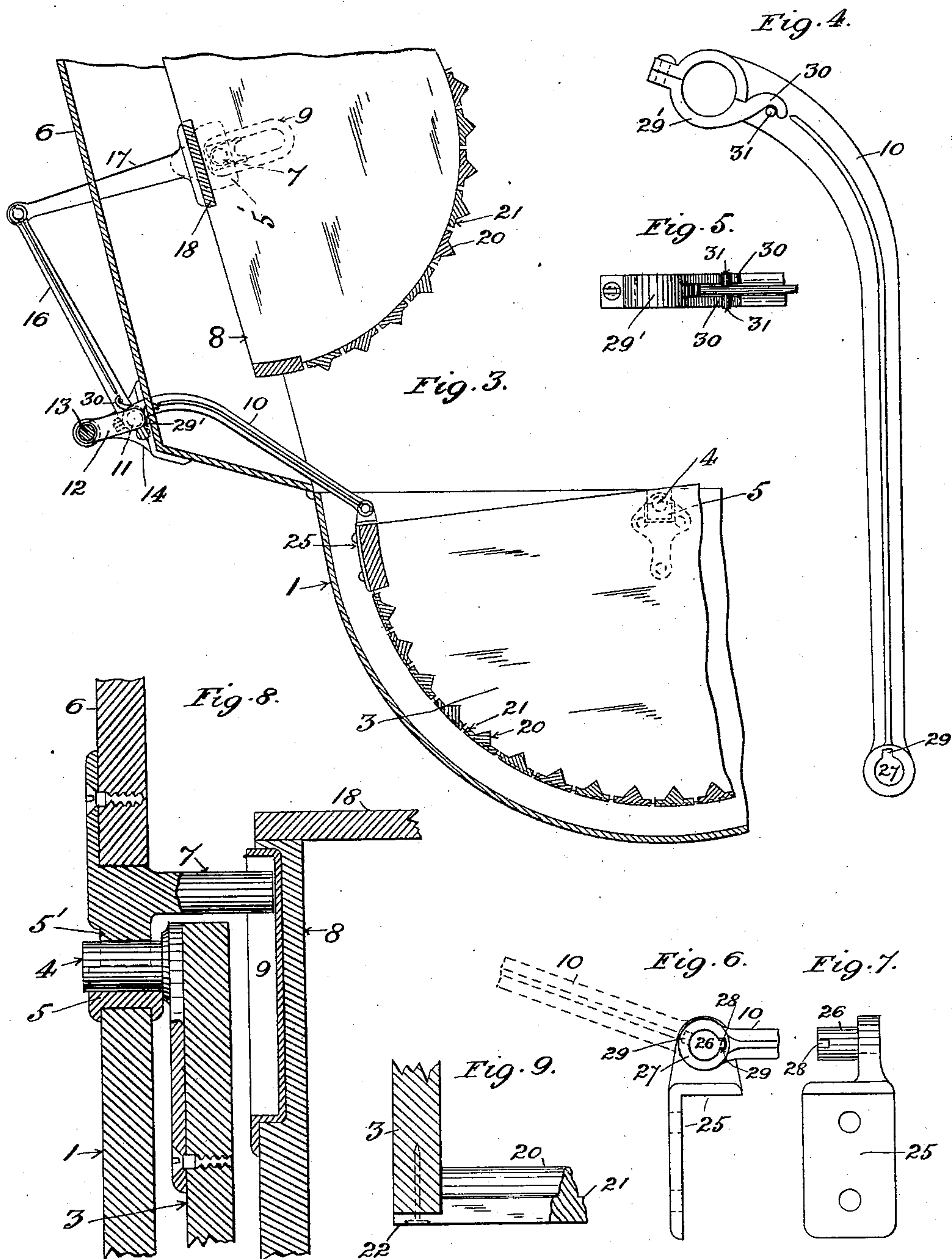
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# UNITED STATES PATENT OFFICE.

ALBERT C. F. WICHMAN, OF FORT WAYNE, INDIANA, ASSIGNOR TO  
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LOUIS, MISSOURI.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 606,699, dated July 5, 1898.

Application filed December 29, 1897. Serial No. 664,266. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT C. F. WICHMAN, a citizen of the United States, residing at Fort Wayne, Allen county, State of Indiana, have  
5 invented certain new and useful Improvements in Washing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.  
10 My invention has relation to improvements in washing-machines; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.  
15 In the drawings, Figure 1 is a vertical longitudinal section on line 1 1 of Fig. 2. Fig. 2 is a top plan view of the machine. Fig. 3 is a view similar to Fig. 1, but with the cover swung to an open position, the parts being  
20 partly broken away. Fig. 4 is a side elevation of the curved pitman. Fig. 5 is an edge view of the upper end of the pitman. Fig. 6 is a side elevation of the casting carrying the boss to which the lower end of the pitman is  
25 pivotally secured, the view showing also the position to which the pitman is held while being slipped over the boss and the dotted lines showing one of the several positions the pitman assumes after being mounted on the  
30 boss. Fig. 7 is a front elevation of the casting shown in Fig. 6, with the lower end of the pitman removed. Fig. 8 is a section on line 8 8 of Fig. 1, taken through the trunnions about which the rubbing-cylinders oscillate;  
35 and Fig. 9 is a sectional detail on line 9 9 of Fig. 1, showing one end of the slat carried by the lower rubber.

The present device is an improvement in that class of washing-machines in which are  
40 employed two oscillating rubbers, the particular object of the present invention being a general reconstruction as to details by which there results a compactness of structure, a reduction in the number of operating parts,  
45 simplicity, an ease in the assembling or uncoupling of the several mechanical connections by means of which the rubbers are oscillated, and by which there result further and other advantages more apparent from a de-

tailed description of the invention, which is 50  
as follows:

Referring to the drawings, 1 represents the outer casing or tub within which the rubbers operate, and 2 the supporting-legs for said tub. Mounted pivotally along the upper edges of 55  
the end walls of the tub is the lower rubber 3, the same being suspended from suitable trunnions 4, resting at the bases of the depressions formed in the castings 5, which form the lower sections of the bearings by which said trun- 60  
nions are received. The upper sections 5' of said bearings are secured along the vertical side walls of the hinged cover 6, carried by the tub. Forming an integral part of each section 5' and projecting inwardly into the tub 65  
and raised a suitable distance above the trunnions 4 is a boss 7, the said bosses serving as the pivotal points about which the upper rubber 8 oscillates. In order to permit the rubber 8 to adjust itself to the variable thick- 70  
ness of clothes introduced between it and the adjacent surface of the lower rubber 3, I provide the end walls of said rubber 8 with longitudinally-grooved plates 9, the bosses 7 entering said plates the full depth of the grooves. 75  
In this way, while the upper rubber is free to oscillate about the bosses 7, it is at the same time permitted to conform itself to the variable thickness of clothes introduced into the space between the rubbers. 80

Pivotally secured at the medial portion of the rear edge of the lower rubber 3 is the lower end of an inwardly-curved pitman 10, the said pitman passing through a suitable opening formed in the hinged cover, the up- 85  
per end of the pitman loosely embracing the crank-pin 11 of the crank-arms 12, carried by the operating-shaft 13 of the machine, the shaft being mounted in suitable bearings or standards 14, bolted to the top and rear end 90  
of the cover. One end of the shaft 13 is provided with a hand-wheel 15, by which the machine is worked. Loosely embracing the crank-pin adjacent to the pitman 10 is the rear end of a connecting-rod 16, the opposite 95  
or forward end being pivotally connected to the upper end of a rigid arm 17, projecting through the cover, the expanded base of said



arm being bolted or otherwise secured to the transverse strip or board 18, connecting the medial upper portions of the semicircular heads of the upper rubber 8. When the hand-wheel is turned in the direction indicated by the arrow in Fig. 1, the parts will assume the position indicated by the dotted lines, and the rubbing-cylinders will oscillate in opposite directions, thus fully rubbing and washing the clothes interposed between them.

In order to make the rubbing-surfaces between the rubbers as effective as possible, I make the slats constituting the bottom of the respective cylinders substantially as indicated in the drawings—that is to say, the rubbing-surface of each slat is provided with a beveled medial portion 20, substantially triangular in cross-section, the inclined faces of said portion being bounded by lateral extended faces 21, the slats being sufficiently spaced apart to allow for the free uninterrupted flow of the water between them. The rear surfaces of the slats constituting the perforated bottom of the lower rubber are extended outwardly a suitable distance beyond the portion constituting the rubbing-surface in the shape of arms 22, the latter being secured or nailed directly to the curved edges of the end walls or heads of said cylinder and being of a length equal to the thickness of said heads. (See Fig. 9.)

The object of making the upper portion of the pitman 10 curved is to avoid cutting away a portion of the rear vertical wall of the cover to permit the reciprocation thereof during the action of the machine. The manner of attaching the pitman to the under rubber and to the crank-pin is better apparent from the details illustrated in the drawings. Secured to the rear edge of the bottom of the inner cylinder is a casting 25, provided with a laterally-deflected stud or pin 26, about which the looped end 27 of the pitman is passed. The periphery of the stud at a point adjacent to the free end thereof carries a lug 28, which as the loop 27 is passed over the stud is caused to pass through a recess or groove 29, forming an extension of the circular opening of the loop. When the parts are assembled and the pitman is swung into a position to embrace the crank-pin, the recess 29 will be swung out of alinement with the limiting-lug 28, the latter serving, under the circumstances, to retain the pitman on the stud 26. The upper end of the pitman is made to partially embrace the crank-pin, the balance of the peripheral surface of the said crank-pin being finally embraced by the curved coupling or clamping section 29', the inner end of which is provided with terminal curved fingers 30, adapted to partially embrace the lateral projecting pins 31, carried by the pitman at the base of the portion embracing the crank-pin. The outer end of the coupling-section 29' is directly secured or bolted to the free upper end of the pitman, as seen by the drawings. The upper end of the arm 17 is provided with

a stud and lug similar to that of the casting 25, and the connecting-rod 16 is provided with a looped end and detachable coupling end similar to that of the pitman 10, so that there is no occasion to describe these parts again in detail. The parts when constructed as here indicated are readily assembled or taken apart, and a superior and simple construction is the result.

When the cover is closed, the lower ends of the upper portions 5' of the sectional bearings by which the trunnions of the inner or lower cylinder are supported snugly close over said trunnions, the latter becoming completely embraced between the two sections. (See sectional view in Fig. 8.)

Having described my invention, what I claim is—

1. In a washing-machine, an outer tub, a cover hinged to the same, sectional bearings having one section of each bearing carried by the tub, and the other section by the cover, an inwardly-projecting boss carried by the section mounted in the cover, a lower rubber pivotally mounted in the bearing-sections carried by the tub, the pivotal trunnions of the lower rubber being embraced by the medial sections of the bearings when the cover is closed, an upper rubber pivotally suspended from the bosses carried by the bearing-sections mounted on the cover, a suitable operating-shaft, and intermediate connections between the shaft and rubbers for operating the latter, substantially as set forth.

2. In a washing-machine, a sectional bearing composed of two parts, one part being adapted to be secured to the tub and the other to the cover hinged thereto, the former being adapted to support the trunnion of the lower rubber, and the latter having formed integrally therewith an inner projecting boss for the support of the upper rubber, substantially as set forth.

3. In a washing-machine, an operating-shaft, crank-arms carried thereby, a crank-pin connecting said arms, a pitman having one end partially embracing said pin, a detachable coupling-section adapted to embrace the remaining portion of the crank-pin, said coupling-section having terminal fingers, lateral projecting pins carried by the pitman below the inner end of the partially-embracing portion referred to adapted to be engaged by said fingers, the opposite end of the coupling-section being adapted to be secured directly to the pitman along the free outer end thereof, substantially as set forth.

4. In a washing-machine, an outer tub, a cover hinged to the same, sectional bearings having one section of each bearing secured to the tub, and the other to the cover, an inwardly-projecting boss forming an integral part of the section secured to the cover, a lower rubber having trunnions pivotally suspended in the bearing-sections carried by the tub, the lower ends of the bearing-sections carried by the cover being adapted to close

over said trunnions when the cover is closed,  
an upper rubber, grooved plates carried by  
the same, said grooves being adapted to re-  
ceive the inner ends of the bosses forming  
5 part of the cover bearing-sections, whereby,  
while oscillating about the bosses the rubber  
may be free to yield to variable thicknesses  
of clothes interposed between the rubbers,

and means for simultaneously oscillating the  
rubbers, substantially as set forth. 10

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

ALBERT C. F. WICHMAN.

Witnesses:

FRED H. WELLMAN,  
JOHN F. RODABAUGH.