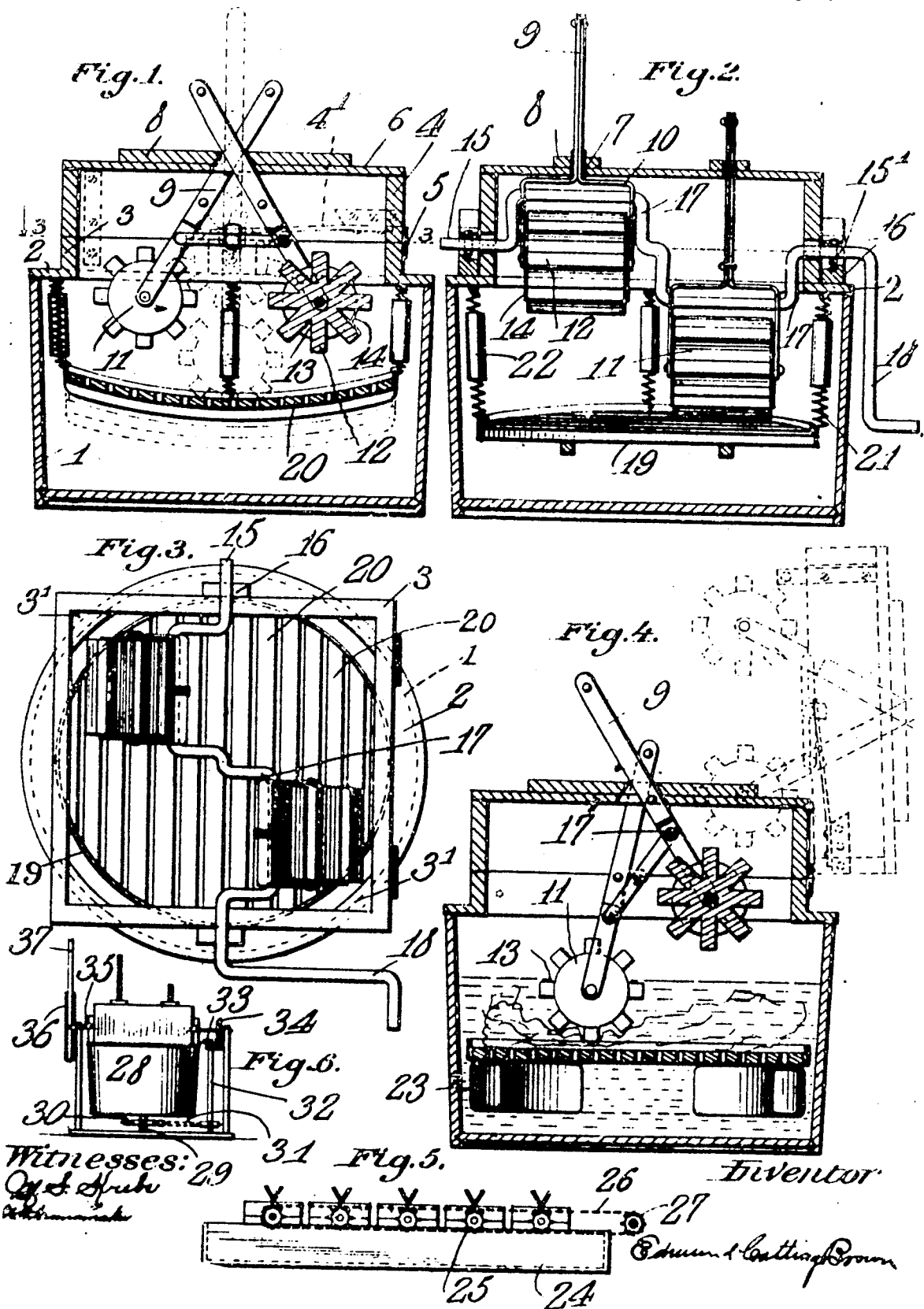


963,116.

Patented July 5, 1910.



UNITED STATES PATENT OFFICE.

EDMUND COTTING BROWN, OF ELLSWORTH, KANSAS.

WASHING-MACHINE.

963,116.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed August 31, 1908. Serial No. 451,101.

To all whom it may concern:

Be it known that I, EDMUND C. BROWN, a citizen of the United States, residing at Ellsworth, in the county of Ellsworth and State of Kansas, have invented a new and useful Washing-Machine, of which the following is a specification.

This invention relates to washing machines of that type utilizing revoluble pounders and its object is to provide a device of this character which is simple and durable in construction and which has means for yieldingly supporting the fabrics to be washed, said means constituting one of the rubbing surfaces of the machine.

A further object is to provide a washing mechanism which may be used in connection with an ordinary wash tub or which, if desired, can be employed in connection with other mechanisms of similar construction within a receptacle common to all of said mechanisms.

A still further object is to provide pounders arranged in pairs and designed to alternately operate upon the fabrics arranged on the yieldable support, said pounders not only serving to force a cleansing fluid through the fabrics but also to direct the said fabrics from one end to the other of the tub or other receptacle in which they are located.

With these and other objects in view the invention consists in certain novel details of construction and combination of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred forms of the invention have been shown.

In said drawings:—Figure 1 is a central vertical section through a washing machine embodying the present improvements, one of the positions of the pounders being indicated by dotted lines. Fig. 2 is a central vertical transverse section through the machine and showing the pounders in the positions indicated by dotted lines in Fig. 1. Fig. 3 is a plan view of the machine on the line 3—3 Fig. 1, the pounders being shown in the positions illustrated in Fig. 1. Fig. 4 is a view similar to Fig. 1 but showing a modified form of a yieldingly supported rubbing board. Fig. 5 is a side elevation on a reduced scale of a receptacle having a series of washing devices combined therewith. Fig. 6 is an elevation of another modified

form of washing machine, the same being provided with mechanism whereby the receptacle may be rotated during the actuation of the pounders.

Referring to the figures by characters of reference 1 designates a tub which may be of usual form and the washing mechanism designed to be combined therewith consists preferably of a ring-like base 2 designed to bear upon the tub and provided with an upstanding frame 3 having corner blocks 3' and constituting a rest or support for a rectangular cover 4 which is hingedly connected to said frame as indicated at 5. The top of the cover 6 has spaced openings 7 at opposite sides of the center thereof, each opening being surrounded by a wear block 8 formed of hard wood or any other suitable material. Each opening is designed to receive an arm 9 preferably formed of metal and extending upwardly from a yoke 10 in which is journaled a pounder 11. Said pounder preferably consists of a roller 12 having V-shaped incisions 13 extending thereinto from its periphery there being heads 14 secured to the ends of the roller and closing the innermost portions of the incisions or pockets 13 as clearly indicated in Fig. 1. A crank shaft 15 is journaled in bearings 15', which are yieldably held by springs 4' secured to the cover 4 in bearing blocks 16 mounted on the base 2 at diametrically opposed points and this shaft has oppositely extending cranks 17 located directly above the receptacle 1 and each of which is movably engaged by and supports one of the yokes 10 hereinbefore referred to. An arm 18 is arranged at one end of the shaft to facilitate the rotation thereof and it will be apparent therefore that when the shaft is actuated the crank 17 will alternately raise and lower the pounders 11 and cause them to travel in an elliptical path, this being due to the fact that the yokes are caused to swing relative to the crank by reason of the sliding engagement of arms 9 with the cover.

The rubbing board used in connection with the pounders consists of a circular frame 19 on which are arranged parallel transversely extending slats 20 spaced apart as indicated in Fig. 1 and preferably disposed in an arc extending from one end to the other of the rubbing board. Springs 21 connect the frame 19 with the base 2 at desired intervals and each of these springs is preferably formed with a tubular housing 22 into which

it is designed to retract under normal conditions and as clearly indicated in Fig. 1.

In using the machine herein described the receptacle 1 is partly filled with a cleaning fluid, such for example as soapy water, and the cover 4 is swung upwardly as indicated, for example, in Fig. 4, whereupon the fabrics to be cleansed may be placed on the rubbing board. Cover 4 is then returned to its lowered position and the pounders 11 will rest on the fabrics and press them downwardly thus placing the supporting springs 21 under stress. When the shaft 15 is rotated the pounders are brought successively into contact with the fabrics and are rolled thereover from one end to the other of the rubbing board thus operating not only to press the cleansing fluid through the fabrics but also to push the fabrics along the rubbing board and transversely of the spaced slats 20 thereon. The rubbing board will, of course, be moved vertically during the scrubbing operation and will also have a more or less tilting movement, each downward movement thereof bringing the fabrics under the surface of the cleansing fluid. The fabrics are thus subjected both to rubbing action from the pounders and upon the rubbing board and to an up and down movement which causes the cleansing fluid to circulate through the fabrics and thus remove the dirt from them.

In order to permit the pounders or rollers to pass over unyielding obstructions upon the board 20, the end portions of shafts 15 are journaled in bearings 15' carried by the free ends of springs 4'. Each of these springs is secured at one end to the cover 4 and will yield upwardly whenever necessary to allow vertical movement of the shaft.

Instead of supporting the rubbing board by means of springs as indicated in Figs. 1 and 2 it can, if desired, be mounted upon a float 23 as indicated in Fig. 4. This float may be in the form of a buoyant tube as shown in said figure. The operation of this modified form of rubbing board will be substantially similar to that of the board hereinbefore described.

Although the scrubbing mechanism is especially designed for use in connection with tubs of the ordinary construction it is to be understood that if preferred a series of these scrubbing mechanisms can be used in connection with an elongated trough such as shown at 24 in Fig. 5. When they are utilized

in this manner sprockets 25 may be connected to the shaft 15 of the machines and actuated simultaneously by means of a chain 26 receiving motion from a power shaft 27.

Another modified construction has been indicated in Fig. 6 wherein the tub or receptacle 28 is mounted upon a revoluble spindle 29 on which is supported a sprocket 30 which sprocket is designed to receive motion from a shaft 32 which is driven through gears 33 and 34 from a crank shaft 35. This shaft may be provided with a pulley 36 for receiving motion from any suitable source through a belt 37.

It is to be understood that various changes may be made in the construction and arrangement of parts without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:—

1. A washing machine including a receptacle, a yieldingly supported rubbing board therein, a cover for the receptacle and having apertures therein, a crank shaft mounted for rotation below said cover, said shaft having oppositely extending cranks, arms mounted to slide and oscillate within the apertures, yokes depending from the arms and pivotally mounted upon the respective cranks, and a revoluble pounder carried by each yoke.

2. A washing machine including a receptacle, a cover thereon, said cover having spaced apertures therein, a shaft journaled below the cover and having oppositely extending cranks, arms having their upper portions mounted to slide and oscillate within the apertures, the lower portions of said arms being connected to the respective cranks, and longitudinally grooved revoluble pounders carried by the arms at the lower ends thereof.

3. A washing machine including a receptacle, a buoyant rubbing board loosely mounted within the receptacle, a cover for the receptacle, spaced arms mounted to slide and oscillate within the cover, means for simultaneously actuating the arms, and a revoluble pounder carried by each arm.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDMUND COTTING BROWN.

Witnesses:

BUKE S. JACK,
W. J. LERTH.