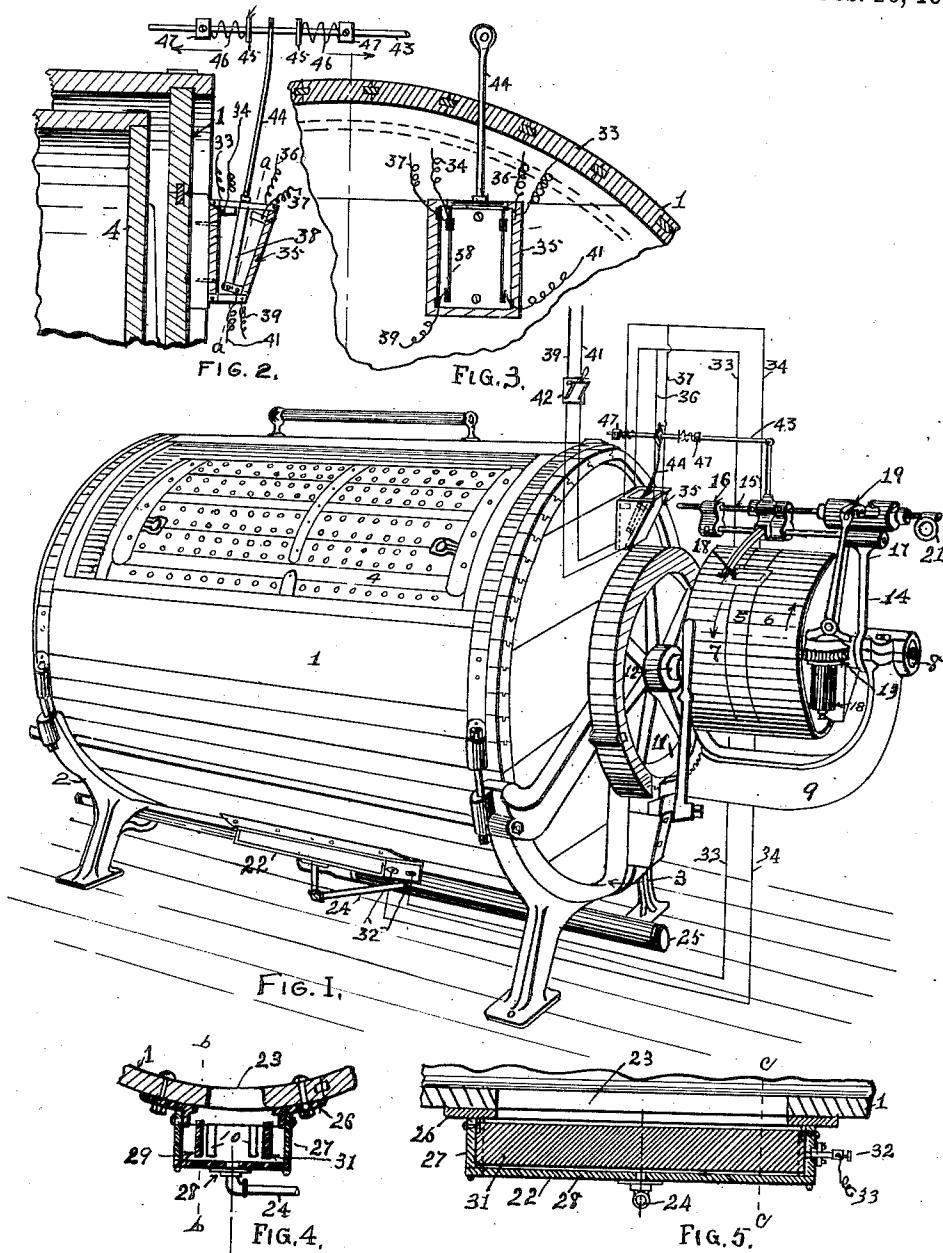


E. BESS, DEC'D.
A. BESS, ADMINISTRATOR.
ELECTROLYTIC WASHING AND BLEACHING DEVICE.
APPLICATION FILED AUG. 8, 1912.

1,086,579.

Patented Feb. 10, 1914.



Witnesses:
William Henning
John Schreiner

Earl Bess Inventor
By *Robert S. Carr*,
Attorney

UNITED STATES PATENT OFFICE.

EARL BESS, OF HAMILTON, OHIO; ALBERT BESS ADMINISTRATOR OF SAID EARL BESS,
DECEASED.

ELECTROLYTIC WASHING AND BLEACHING DEVICE.

1,086,579.

Specification of Letters Patent.

Patented Feb. 10, 1914.

Application filed August 8, 1912. Serial No. 714,008.

To all whom it may concern:

Be it known that I, EARL BESS, a citizen of the United States, residing at Hamilton, Butler county, Ohio, have invented a new and useful Improvement in Electrolytic Washing and Bleaching Devices, of which the following is a specification.

My invention relates to electrolytic washing and bleaching devices of the class adapted to the use of laundries or for other suitable purposes, and the objects of my improvement are to provide means for subjecting the washing solution to the action of an electric current during the agitation of the fabric therein; to provide automatic means for alternately reversing the current to the electrodes for keeping their surfaces clean of foreign matter; to provide automatic means for maintaining the current out of action during the inaction of the agitation of the solution with the fabric; to provide a device which may be used as an attachment to the ordinary laundry washers now in common use, and to provide simple, compact and durable construction and assemblage of the various parts for securing facility of operation and efficiency of action. These objects may be attained in the following described manner, as illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of my electrolytic washing and bleaching device attached to a laundry washing machine; Fig. 2, a longitudinal section, and Fig. 3 a transverse section on the line *a-a* of the current reversing switch with automatic reversing connections; Fig. 4, a transverse section on the line *c-c* of Fig. 5, and Fig. 5 a longitudinal section on the line *b-b* of Fig. 4 of the electrolytic cell attached to the stationary cylinder of the washing machine.

In the drawings, 1 represents the stationary cylinder of a laundry washing machine mounted on supports 2 and 3, 4 a perforated cylinder journaled therein and adapted to be rotated alternately in opposite directions at regular intervals by means of the automatic reversing mechanisms shown in Fig. 1. Said mechanism consists of the loose pulleys 6 and 7 being driven in opposite directions by belts (not shown) and the intervening tight pulley 5 mounted on the shaft 8 which is supported by means of the bracket 9 secured on the head of the stationary cylinder 1. A gear 11 secured on the projecting

journal 12 of the perforated cylinder engages with a pinion (not shown) on the shaft 8 for driving said cylinder from the tight pulley 5. A worm (not shown) on pulley 6 engages with the cam gear 13 for actuating the rocker arm 14 alternately in opposite directions. A shifting rod 15 slidably mounted in bearings 16 and 17 is provided with belt loops 18 and with a hinged finger 19 adapted to detachably engage with the rocker arm 14 for actuating said rod 15 longitudinally whereby the belts may be shifted alternately upon the tight pulley 5 for reversing the direction of the perforated cylinder 4. A gravity lever 21 secured on rod 15 serves to turn and maintain said rod with the finger 19 either into or out of engagement with the rocker arm 14 as desired.

The foregoing description relates to a laundry washing machine of the ordinary construction.

An electrolytic chamber or cell 22 secured to the lower portion of the stationary cylinder as shown in Fig. 1 communicates with the interior thereof through the opening 23. A pipe 24 leads from the cell 22 to the drain pipe 25 of the cylinder 1 for emptying its contents when desired. Said cell 22 consists of a metal base 26 adapted to be bolted to the cylinder 1 and of the walls 27 and bottom 28 of slate or other suitable non-conducting material. The electrodes 29 and 31 consisting of metal or other suitable conducting material may be removably supported more or less near together within cell 22 by means of grooves 30 formed in the end walls as shown in Fig. 4. Terminal posts 32 extended through the wall of the cell are secured to the respective electrodes therein and communicate through conducting wires 33 and 34 with the corresponding poles of the ordinary double pole switch 35 which may be secured on the end of the cylinder 1 as shown in Figs. 1, 2 and 3. The opposite poles of said switch may be connected in reverse order with said conducting wires by means of the branch wires 36 and 37 leading therefrom, as shown on the diagram in Fig. 1. The ordinary pivoted switch knife 38 is supplied with the electric current from a source (not shown) through the conducting wires 39 and 41 which are provided with the usual switch 42. A rod 43 connected to the shifting rod 15 is slidable longitudinally thereby through an opening formed in the

end of the extended handle 44 of the knife 38. Washers 45 are loosely mounted on the rod 43 on opposite sides of the switch handle 44 and coil springs 46 intervene between said washers and the respective collars 47 which may be adjustably secured on said rod.

In operation, the belt on loose pulley 6 is sufficiently wide to drive pulley 5 without being entirely released from said loose pulley that it may continue to drive the worm gear 13 for actuating the rocker to automatically shift the belts alternately to drive pulley 5 in respective opposite directions in the ordinary manner. The rod 43 is moved longitudinally and alternately in opposite directions with the shifting of the belts owing to its connection with the shifting mechanism. The movement of said rod actuates the springs 46 with the washers 45 to move and maintain the knife 38 under a yielding contact alternately with the opposite poles of the switch 35. In this manner the polarity of the electrodes 29 and 31 may be reversed intermittently for maintaining their surfaces free of foreign matter and for decomposing the solution within the cell 22. The rotation of the perforated cylinder containing the soiled fabric serves to mingle the decomposed solution in the cell with that portion within the stationary and perforated cylinders. The use of the electric current of the proper voltage and amperage between the electrodes serves to decompose the aqueous solution and liberate the oxygen, hydrogen and certain components of the cleansing agent used with the aqueous solution. The liberated gases will mingle with the solution within the cylinders where the hydrogen will escape and the oxygen will unite with the organic stains and discolored spots in the fibers of the fabric and effect the

bleaching thereof. The movement of the perforated cylinder and of the rod 43 may be discontinued with the switch knife out of contact with the poles by lever 21 with the finger 19 out of engagement with the rocking arm 14 and with both belts out of engagement with the tight pulley 5. The current to the electrodes is thus broken during the inaction of the perforated cylinder to obviate the liability of injury to the operator by the current.

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

1. The combination of a container, an agitator journaled therein, an electrolytic cell secured to the container and communicating with the interior thereof, a plurality of electrodes within the cell, electric connections therewith, power driving and reversing mechanism for the agitator, and connections actuated thereby for reversing the polarity of the electrodes simultaneously with the reversing of the agitator.

2. The combination of a container for an aqueous solution, a perforated cylinder journaled therein, driven mechanism arranged to actuate the cylinder alternately in opposite directions, an electrolytic cell removably secured beneath the container and communicating therewith, drainage connections with the cell, electric connections with the electrodes of the cell, and connections actuated by said mechanism for reversing the polarity of the electrodes at intervals.

EARL BESS.

Witnesses:

NORMA LAMB,
R. S. CARR.