

(No Model.)

T. PAYNE.
WASHING MACHINE.

No. 469,528.

Patented Feb. 23, 1892.

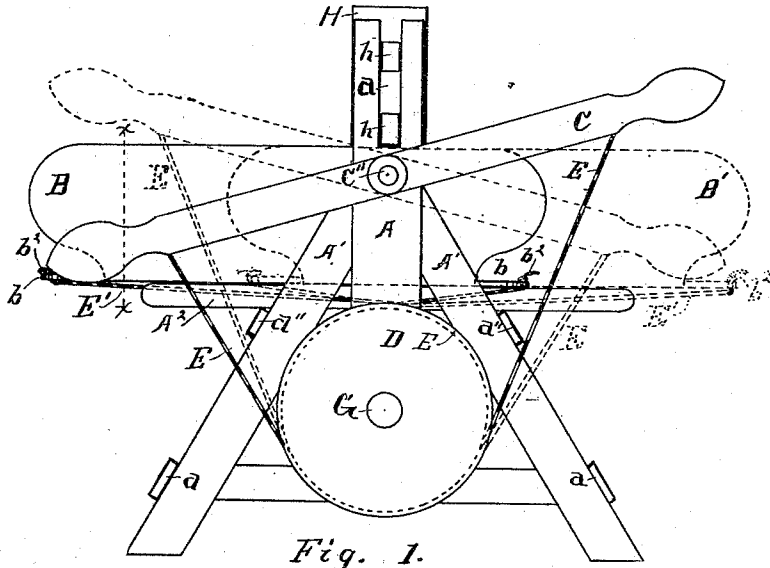


Fig. 1.

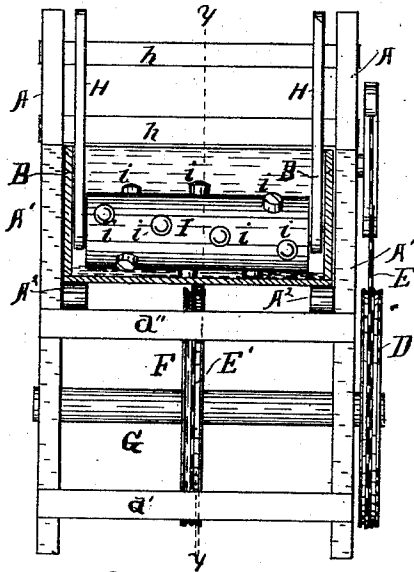


Fig. 2.

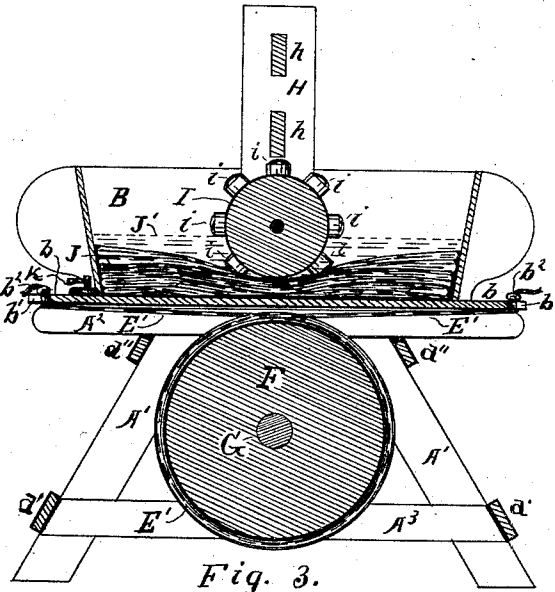


Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

THOMAS PAYNE, OF GRAND RAPIDS, MICHIGAN.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 469,528, dated February 23, 1892.

Application filed August 8, 1891. Serial No. 402,158. (No model.)

To all whom it may concern:

Be it known that I, THOMAS PAYNE, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to improvements in that class of washing-machines with which the washing is done by means of a roller or rollers; and its objects are, first, to combine the effects of a pounder with that of a roller; second, to provide a machine with which the roller-frame has only a vertical motion and the tank or tub is passed back and forth under the rollers, and, third, to provide a roller washing-machine with which the tank or tub is independent of and may be readily removed from the supporting-frame. I attain these results by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of my machine. Fig. 2 is an end view of the same with the tank cut off on the line xx of Fig. 1, and Fig. 3 is a sectional elevation on the line yy of Fig. 2.

Similar letters refer to similar parts throughout the several views.

To support my improved washing-machine I construct a frame having two standards A A, provided at their upper ends with long open slots a , that receive and act as guides for the ends of the girts h h of the roller-frame. These standards are supported upon legs A', that are tied together by means of the girts a' and a'' . On each side of the frame I attach a slide A² to the inner surface of the standard and legs, so that they will rest upon the girts a'' at a proper height to receive and support the tank or tub B, which is made oblong and of a proper width to slide freely between the standards. I then construct a roller-frame H H, supported by girts h h , that pass entirely through both side pieces and project far enough beyond so that the ends will pass into and through the slots a in the standards and act as guides to hold the frame in position, so that it may work freely up and down, but cannot be worked in the direction that the tank is carried. The side pieces of this frame are a proper distance apart to set freely inside of the tank between the side

walls thereof and have a roller I journaled to their lower end, said roller being of a proper length to turn freely between said standards or side pieces H and of a proper size to revolve freely as the clothes pass under it, and avert all danger of its becoming clogged by or entangled in the clothes. This roller is turned round and smooth upon its surface, and in lieu of corrugations is provided with a series of short pins i , set at intervals in such positions and of a proper length, so that they will come in contact with the clothes with much the same effect that a pounder would have thereon, and I prefer that they stand alternately in lines diagonally across the surface of the roller, as shown in Fig. 2. It will be seen that with this construction the roller-frame is stationary so far as a lateral movement is concerned, but is left free to work up and down to adjust itself to the amount of clothes that may be placed in the tank, or to be removed entirely from the machine by lifting it up out of the slots A in the standards, while the tank and clothes are arranged to be carried back and forth under the roller by sliding the tank upon the slides A², and to accomplish this I mount two wheels or levers D and F upon a shaft G, to which they are securely attached, the shaft being journaled to the frame at each side to turn freely. The wheel or lever F is placed directly under the center of the tank in line therewith, and is connected thereto by a rope or cord E', one end of which is securely attached to one end of the bottom of the tank, and the other end is carried over and around the wheel and securely attached to the other end of the tank, with the center or bite encircling the wheel in such a manner that the draft upon either end of the rope will be from the top of the wheel and as nearly parallel with the bottom of the tank as possible, as shown in Fig. 3, and to facilitate this action I find it well to project the bottom of the tank beyond the end walls, as at b , and attach the ends of the rope or cord as far out as possible, and I find that the most convenient way to attach the rope is to make short slots b' in the ends of the bottom for the reception of the rope and prevent the rope from drawing out by tying knots b^2 in the ends to rest upon the upper surface of the bottom, though I do not restrict

myself to this manner of attaching it. I then secure the wheel or lever D to one end of the shaft G, outside of the frame in line with the lever C, which I pivot centrally to the standard A, as at C'', and, securing one end of the rope or cord E to one end of the lever, I pass the other end down and around the wheel D and secure it to the other end of the lever C, so that by oscillating the lever C the wheel D will be made to revolve proportionately each way and transmit the motion of the lever C, through the cord E, the wheel D, the shaft G, the wheel F, and the cord E', to the tank or tub B to give it a longitudinal vibratory motion upon its slides A², so that when the lever is carried to the position of the solid lines, Fig. 1, the tank will be carried to the position of the solid lines, and if the lever is carried to the position of the dotted lines the tank will be carried to the position of the dotted lines at the opposite end of the slides, so that the clothes will be carried alternately backward and forward under the roller I. The most convenient way to place the clothes into the tub or tank is to remove the roller-frame by slipping it up out of the slots *a* in the standard and placing the clothes in in folded layers, as indicated at J in Fig. 3, with sufficient suds to completely cover them when the roller is in position, as per dotted lines J'. To remove the tank from the frame, remove the roller-frame from the standard, then loosen the cord E' from the bottom of the tank by slipping the ends *b*² from the fastenings, and slide the tank endwise from between the standards.

Water may be drawn out of the tank by

means of the faucet K or any other suitable device.

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

1. The combination, in a washing-machine, with a frame having slotted standards and slides attached thereto, of a movable tank, a lever centrally pivoted to the standard, a wheel or lever D, attached to a shaft and connected with the lever C by a cord passing around the wheel and attached to both ends of the lever, a shaft, a wheel F, attached to the shaft under the tank and connected therewith by means of a cord E', a roller-frame arranged to work in the slots *a* in the standards, and a roller, substantially as and for the purpose set forth.

2. The combination, in a washing-machine, of a frame having slotted standards, horizontal slides attached thereto, and a movable tank, with a lever centrally pivoted to one standard and connected by means of a cord with a wheel, a shaft, a wheel secured to the center of the shaft, said shaft journaled to the standards below the tank, the center wheel attached to both ends of the tank by a cord, a roller-frame having a vertical motion, and a roller provided with short pins dispersed over its surface, substantially as and for the purpose set forth.

Signed at Grand Rapids, Michigan, this 22d day of July, A. D. 1891.

THOMAS PAYNE.

In presence of—

GEORGE H. WHITE,
ITHIEL J. CILLEY.