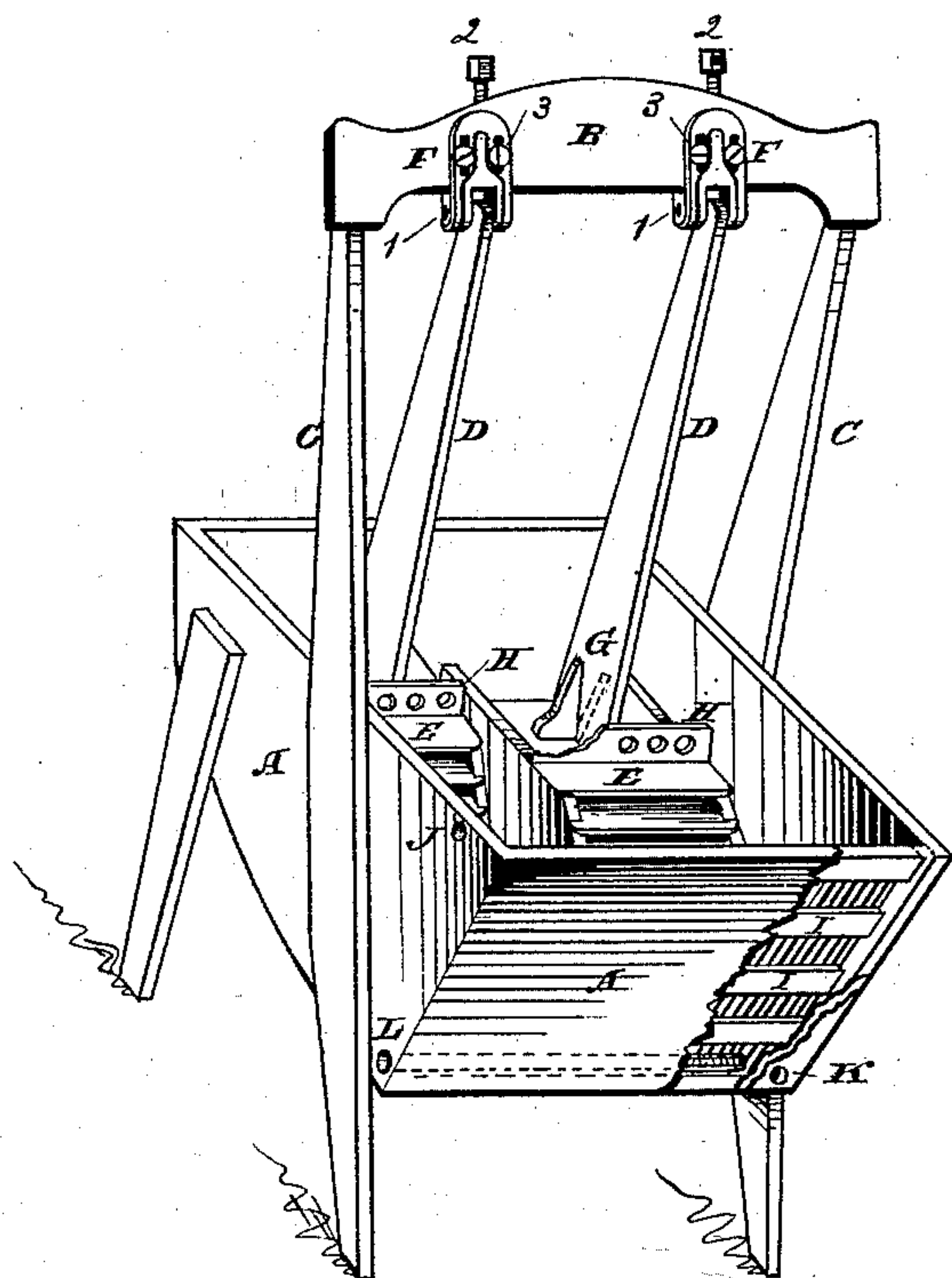


J. M. OAKLEY.
Washing-Machine.

No. 203,366.

Patented May 7, 1878.



John M. Oakley
Inventor

By

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Atty.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN M. OAKLEY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **203,366**, dated May 7, 1878; application filed July 9, 1877.

To all whom it may concern:

Be it known that I, JOHN M. OAKLEY, of Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in Washing-Machines, whereof the following is a specification:

The said improvements relate to the machine for which Letters Patent were issued to me September 17, 1861, and now commonly known as the "Nonpareil washing-machine," in which the clothes are cleansed by repeatedly squeezing them against the side or end of a suitable tub by means of plungers affixed to swinging arms suspended from a cross-beam above.

The present invention embraces certain mechanism for raising the plungers when from any reason they have settled down, and combines with the plungers a certain arrangement of the wash-board or part that takes the force or impact of the plungers in their operation on the clothes, in connection with the means of using the steam or steam-heat, and the entrance and exit of the water, while the clothes are protected, all substantially as hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same, referring to the annexed drawing, which gives a general view of so much of a Nonpareil washing-machine as is necessary to illustrate my improvements, the machinery for working the plungers being omitted, because forming no part of the present invention.

A is an ordinary tank or tub to contain the water and clothes. B is a cross-beam, supported above the tub on standards C, from which cross-beam are suspended swinging arms D, carrying at their lower ends the plungers E; and the arms D or stems of said plungers are each pivoted at 1 to a bracket or clevis F on the cross-beam B.

These plungers, from use and the action of the suds thereon, are liable to settle below their normal place; and I therefore provide means for restoring them to their place in such case, which means consist, essentially, in a movable clevis, F, which, by means of a screw, 2, which passes down through the cross-bar B and into a screw-thread in the

clevis or bracket F, may be moved vertically, and so raise the plungers. The same result may also be attained by like means applied at the junction of the standards and cross-beam, in which case the cross-beam would be raised bodily, and with it the entire series of plungers; but I prefer the former plan, whereby any one may be separately adjusted.

In operation the plungers are subject to a torsional strain, tending to twist and loosen them from their stems. To prevent this I apply knee-braces G at the point of attachment of the plungers to their stems, the upright portion of which braces is set at an inclination to the stem to give the brace a lateral reach. There should be at least one of the braces on each side of the stem D, reaching or inclined in opposite directions, and made fast to both stem and plunger. These braces resist the torsional strain and prevent the plungers from becoming loosened.

The tub A is shown as broken away at the front, to exhibit the structure of this part of the machine. The slats which are thus exposed represent a sheet of open-work attached to the inside of the front of the tub, but set off therefrom by cross pieces I, so as to leave a space behind for the free flow of the water, when the clothes are pressed against it by the action of the plungers.

In the space behind the sheet of open-work, at or near the bottom of the tub, I place a heating tube or tubes, preferably a perforated steam-pipe, though I do not confine myself to that.

The water used for the washing is brought in at one side of the tub, as at the opening J, and let out at the opposite side, K. The steam-pipe enters the tub at L, and extends nearly across it.

Under this arrangement the water has free flow and escape from the tub, the steam or steam-heat is imparted directly to the water and clothes through the open-work I, and the latter protects the clothes from contact with the heating-pipes, which would be injurious, while a uniform and effective front is presented to the action of the plungers on the clothes.

I claim as an improvement in the washing-machine patented by me September 17, 1861—

1. The combination, with the cross-beam B, of the movable bracket or clevis F and adjusting-screw 2, for regulating the height of the swinging plungers, substantially as described.

2. In combination, the plungers, the heating-pipes arranged in front of the plungers, the protecting open-work interposed between the heating-pipes and the plungers, and the

tub, having ingress and egress openings arranged at opposite sides thereof, for the entrance of the fresh water and escape of the suds, respectively, as set forth.

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Witnesses:

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