

S. & A. F. WEKEY.
Cylinder Washing-Machine.

Patented June 22, 1875.

No. 164,785.

Fig 1.

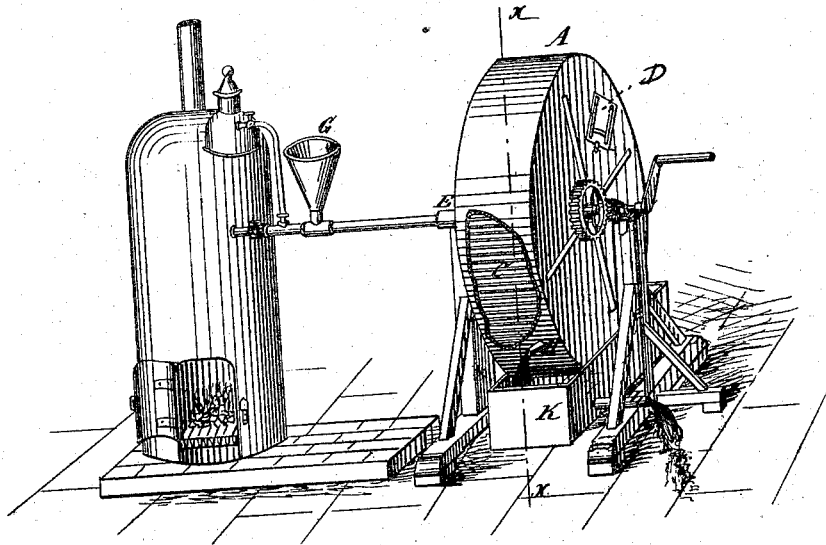
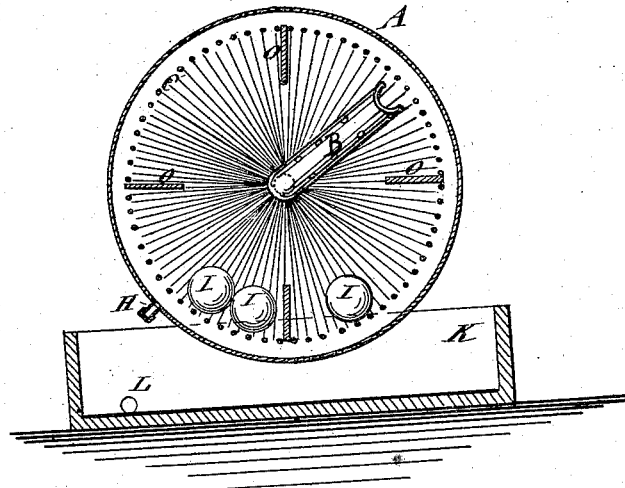


Fig. 2



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UNITED STATES PATENT OFFICE.

SIGISMUND WEKEY AND AGNES FLORENCE WEKEY, OF NEW YORK, N. Y.

IMPROVEMENT IN CYLINDER WASHING-MACHINES.

Specification forming part of Letters Patent No. **164,785**, dated June 22, 1875; application filed May 1, 1875.

To all whom it may concern:

Be it known that we, SIGISMUND WEKEY and AGNES FLORENCE WEKEY, of the city, county, and State of New York, have invented a new and useful Improvement in the Combination Economic Clothes-Washer, of which the following is a specification:

Our invention consists of certain improvements in machinery and apparatus for the washing of clothes and textile fabrics of any kind, whereby the combined operation of soaping, washing, boiling, rinsing, bluing, and, finally, of expelling the water from the clothes, will be done and performed at a great saving of time, labor, and expense, without the necessity of the clothes operated upon being even touched by the hand after having been once placed in the machine, and before they shall have been thoroughly washed, and the moisture expelled from them without a separate clothes-wringer being required for the purpose.

The nature of the invention will be clearly understood by the subjoined description, reference being had to the drawings hereunto annexed, and to the letters and figures thereon.

A is a water-tight drum of pine wood and zinc combined. It may be constructed of wood or of any other material which is not liable to oxidize. The shape of the drum may be circular or polygonal. We give preference to a drum of the shape of a fly-wheel. The inside of the drum is lined with fluted pine or other suitable wood. Within three inches of the inner periphery of the drum it is partitioned off by elastic rods of cane C closely fixed, so as not to allow the clothes operated upon to protrude through and to touch the inner periphery of the drum. D is a door covering an aperture, through which the clothes intended to be washed are placed into the machine, and taken out again after having been washed. E is a hollow axle, which does not, however, pass through the inside of the drum. By means of this hollow axle hot water, cold water, bluing water, and steam is admitted into the machine. Inside the drum A is a semicircular piece of wood in the form of a pipe marked B, so as to assume the shape of a tube cut in half longitudinally, closed at its end near the center of the drum, but open at its other end. It is attached to the inside

of the drum for the purpose of receiving the steam which enters the machine through the hollow axle E, and serves to distribute and convey the steam between and beneath the clothes within the machine, the steam being thus made to rise through the clothes, steaming them without more water in the machine during this operation than was necessary to moisten and to soap the clothes, the effect of steam under moderate pressure upon the clothes being far superior to that of boiling water. H is an aperture for the discharge of waste water from the machine. This aperture may be closed with a plug, or tap, or thumb-screw. I are balls of wood placed inside the drum. These balls, in the course of the revolution of the drum A, are raised to near the upper part of the drum, and in dropping down again upon the cane-work they exert a pressure upon the clothes which happen to be between the cane-work and the balls, such pressure being continually repeated, resembling, in effect, the squeezing and kneading of the clothes by the hand. Small holes for the escape of compressed air from the drum are made therein. K is a trough, which may be made to serve the purpose of a stand whereon to fix the axles and gearing. G is a funnel for the easy admission of cold water and bluing water into the machine through the hollow axle. The inside of the drum is divided into compartments by means of partitions or shelves, such compartments to have effect in carrying the clothes upward and distributing the contents of the machine, so that it will not exert their influence as a dead weight on one point when the machine is in operation.

The working of the machine is performed in the following manner: The clothes intended to be washed and operated upon are put into the machine through the aperture covered by the door D, together with soap dissolved in hot water in proportion to the quantity of clothes placed in the machine for the purpose of being washed. The door D is then closed and fastened by means of a screw, bolt, or other simple contrivance. Warm water being then admitted into the machine through the hollow axle, and a rotary motion being given to the drum A, the soaping and washing of the clothes commences. When it is intended to

subject the clothes operated upon to what is termed boiling, steam is admitted into the machine through the hollow axle, and, by means of the wooden tube above alluded to, the steam is distributed between and conveyed beneath the clothes operated upon. The scouring and washing of the clothes is performed by the reciprocal action of the elastic rods of cane and of the balls, the one upon the other, and upon the clothes intermixed between them within the drum, and by the alternate raising up and falling down of the clothes and balls upon the cane-work, and the elastic reaction of the canes upon the clothes and balls, subjecting the clothes to a continuous though comparatively gentle friction in addition to the rubbing and friction exerted upon the clothes by the extensive fluted inner surface of the drum. By each revolution of the machine the clothes within the drum are exposed to a fresh and continually changed surface to rub against, the clothes being rubbed and squeezed and tossed about to and fro by and between the elastic rods of cane and the balls within the machine, until the combined operation of soaping, boiling, or steaming and washing of the clothes is effectually done, when the plug, tap, or thumb-screw of the aperture H is opened, and the impure water is discharged from the machine. The aperture H is then closed again and clear water is admitted into the machine through the funnel G and hollow axle E to rinse the clothes. After the clothes in the machine have been well rinsed the aperture H is again closed, and sufficient water is admitted into the drum to float the clothes within the machine. As soon as the clothes are floated, cold water, in which washing-blue was dissolved, is poured into the

drum through the funnel G and hollow axle E, revolving the drum during the time the bluing water is passing into the machine to blue the clothes. The waste blue water is then discharged from the machine. After the escape of the waste blue water the revolution of the drum, with the aperture H left open, is resumed and continued for the purpose of expelling the moisture from the clothes by driving it through the interstices of the cane-work, and discharging it from the machine by occasionally stopping the revolution of the drum with the aperture H downward.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a washing-machine, the combination of the closed revolving cylinder A, having an open concentric cylinder C of elastic cane rods, leaving an uninterrupted space between them and balls I, whereby the clothes are washed, rinsed, and moisture expelled therefrom, in the manner described.

2. In a washing-machine, the combination of closed revolving cylinder A, having its inner surface partitioned off by elastic cane rods c, and provided with the hollow axle E and the perforated pipe B, substantially as described.

3. The combination of the closed revolving cylinder A, provided with the concentric cylinder C, having shelves O, the balls I and steam-pipe, substantially as and for the purpose set forth.

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