2 Sheets—Sheet 1.

E. A. CLARK.
Washing-Machine.

No. 226,976. **Patented April 27, 1880.**

Fig. 2.

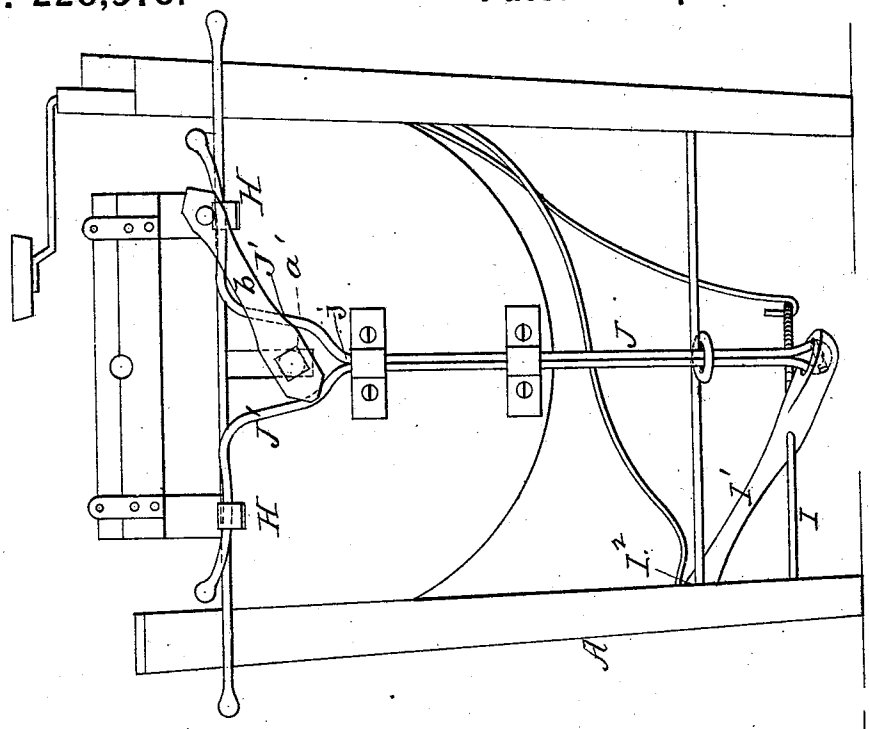
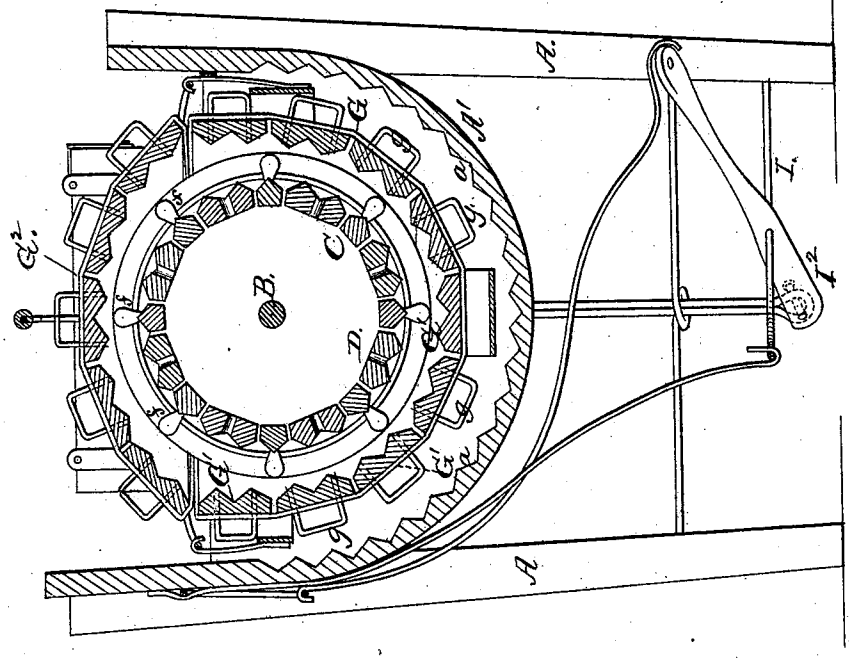


Fig. 1.



WITNESSES

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2 Sheets—Sheet 2.

E. A. CLARK.
Washing-Machine.

No. 226,976. *Fig. 5.* **Patented April 27, 1880.**

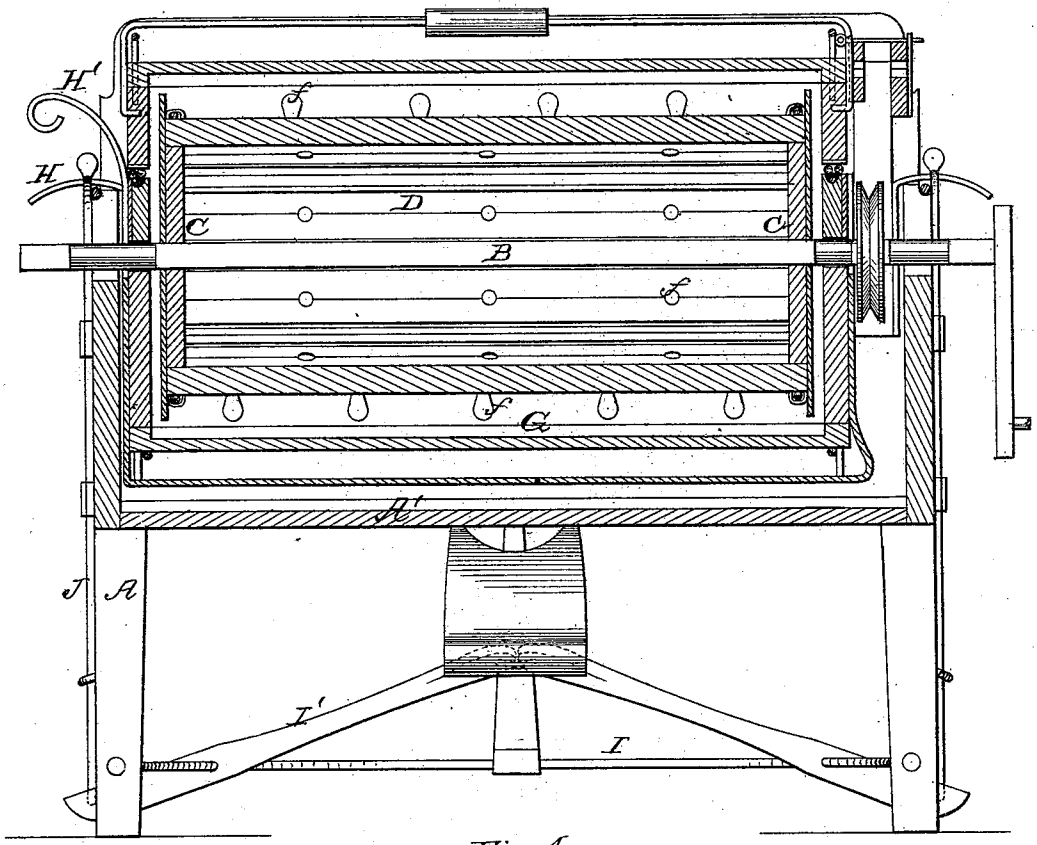
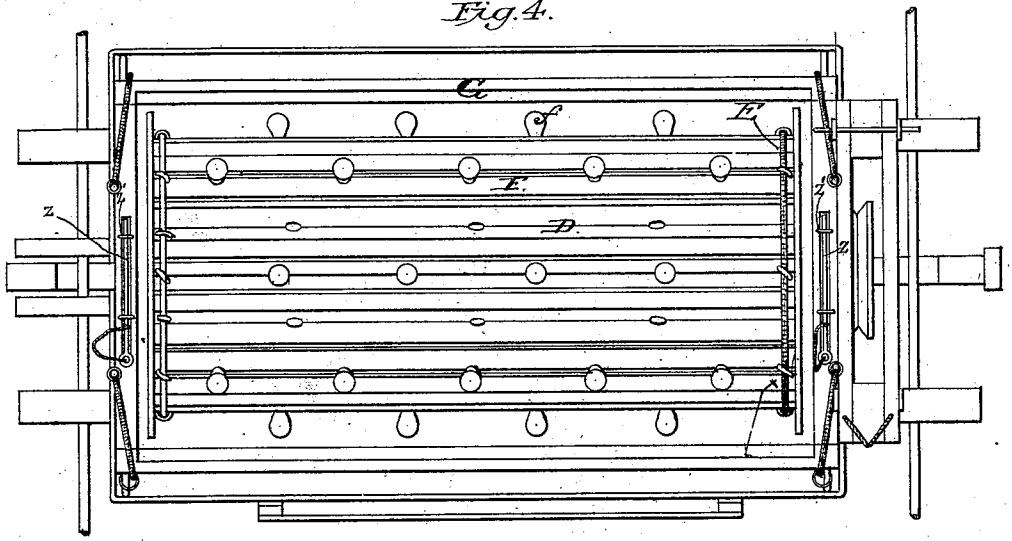


Fig. 4.



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UNITED STATES PATENT OFFICE.

EMILY A. CLARK, OF ALEXANDRIA, NEBRASKA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 226,976, dated April 27, 1880.

Application filed December 6, 1879.

To all whom it may concern:

Be it known that I, EMILY A. CLARK, of Alexandria, in the county of Thayer and State of Nebraska, have invented a new and valuable Improvement in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical cross-section of my improved laundrying-machine. Fig. 2 is an end view thereof. Fig. 3 is a longitudinal central vertical section of the same, and Fig. 4 plan view of the inner cylinder and concave removed from the reservoir.

My invention relates to a washing-machine; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter mentioned, and specifically set forth in the claims.

In carrying out my invention I employ four ordinary standards or legs, which support a semi-cylindrical tub or reservoir having an extended back, as shown. A sufficient portion of the bottom and approximate sides of the reservoir is corrugated, and the ends furnish journal-bearings for the shaft of a revolving cylinder having alternate perforated longitudinal slats. One end of each of these slats is confined pivotally by a circumferential wire or other proper band, and the other is removably held in place by the constant force of a flexible band or other similar device. Alternately between these hinged or pivoted slats are arranged rigid slats provided with suitable pins. Both the movable and fixed slats, arranged, as shown, to form the revolving cylinder, are secured to cylinder-heads rigid with the revolving shaft, which is provided with a crank or other motor connection, and this cylinder operates within a semi-cylindrical removable box, as shown. This removable box is hung by means of spring-rods which rest upon shoulders formed in the outer frame, and is provided with slats having intervening interstices, said slats being held constantly in connection with a cylinder-head by a flexible or other spring band. Staples or other suitable confining means prevent their displacement.

Suitable tread-levers operated by a treadle and journaled upon a frame rigid with the standards or legs support vertical adjustable standards, as shown, each standard bifurcated to present reversely-extended spring-arms, which, operating upon spring-catches in the removable box, serve to allow the operator to adjust the height of the washing-cylinder according to the depth of water at will.

Referring to the drawings, A represents the supports carrying reservoir A′, said reservoir being corrugated at *a*, and being provided with journal-bearings *a′* to receive the revolving shaft B, having crank *b*. Rigid with this shaft B are heads C, to one of which are secured hinged or pivoted perforated slats D, the opposite ends of which are held in contact with the other head, C, by the constant force of a spring-band, E, or other equivalent device. Alternately between these pivoted slats D are rigid slats F, having pins or cone-shaped arms *f*, as shown.

G represents a frame, semi-cylindrical in form, provided with confining-staples *g*, which confine the radial action of slats G′ within the limits of the said staples, a flexible spring-band holding them in constant pressing contact with the frame or heads G. G^2 represents a cover to this portion G *g* G′, and, being constructed similarly and matched therewith, forms a cylinder for the revolving rubber B C D E F, as shown.

H represents curved arms attached to the ends of the semi-cylindrical frame G, which are engaged by the arms J′ of the vertical standards J, for the purpose hereinafter explained, and H′ spring-rods, as shown. These rods are adapted to rest upon shoulders in the outer frame when required to support the working mechanism.

I represents a frame which forms the fulcrum of treadle-levers I′, governed by a foot-rest, I^2. From the outer end of these levers I′ extend upward vertical standards J, bifurcated at *j* to form arms J′, which, operating beneath the arms H, serve to allow adjustability at will to accommodate the height of water in the reservoir.

It will be noticed that the hinged slats D are corrugated, to serve as a scrubber in connection with the corrugated inner surface of the concave box G, the longitudinal slats thereof having proper interstices between them.

The clothes are inserted under the hinged slats D, the clean parts thereof being retained within the cylinder, while the soiled portions are exposed and subjected to the rubbing. The perforations assist to allow the ingress of water, and the pins *f* catch up the clothes.

When the pin-cylinder is required for use in connection with the reservoir A′ the frame G is removed and the cylinder disengaged therefrom by means of the rods *z* engaging staples *z′*. This latter cylinder goes down into the water, and when large quilts, carpets, and the like are thrown loosely in the pins catch them up and carry them over and over it, letting them go each time the cylinder is turned in the opposite direction, and catching them up again as the motion of the cylinder is reversed. This vibratory motion is continued until the articles are cleaned, and each time they are caught up a new part thereof is subjected to the rubbing. These pins also prevent the articles from bunching, and in whatever manner they are thrown into the machine speedily straighten them out. In case several articles are thrown in at a time, they are seized first by one row of pins and then by another, so that when the cylinder has made a complete turn they are nicely straightened out, and this without stopping the machine.

I sometimes do not remove cylinder G, and throw small articles well soaped loosely in between it and the inner cylinder, which is then turned back and forth. The clothes are thus subjected to considerable friction and speedily cleansed.

In case of knotting or bunching the slats G′ accommodate themselves to the occasion by springing outward, and immediately when the force is removed resume their normal condition.

The operation of the treadle and its connections with the operating rubbing portions described is obvious.

Various modifications may be made in this machine without departing from the principle of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The cylinder, as shown, having head C, hinged slats D, rigid slats F, and spring-band E, combined with the open frame G G′ *g* and tub or reservoir A′, as shown and specified.

2. The combination, with the reservoir A A′ *a*, of a revolving cylinder having hinged slats controlled by spring-band, the open cylinder G G′ *g*, spring-arms H, spring-rod H′, and treadle I I′ I², standards J *j* J′, as herein specified, for the purposes set forth.

3. The combination, with the concave corrugated reservoir A′, of the oscillating or rotary inner cylinder having a corrugated perimeter, and pins *f* projecting therefrom, as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MRS. EMILY ANGELLA CLARK.

Witnesses:
NOAH S. LONG,
LOIS P. LONG.