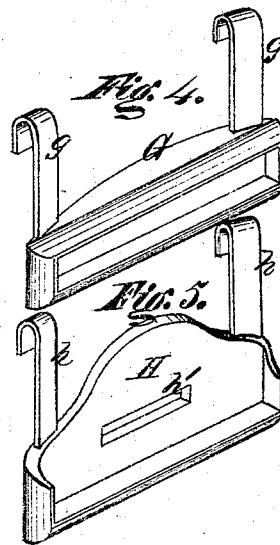
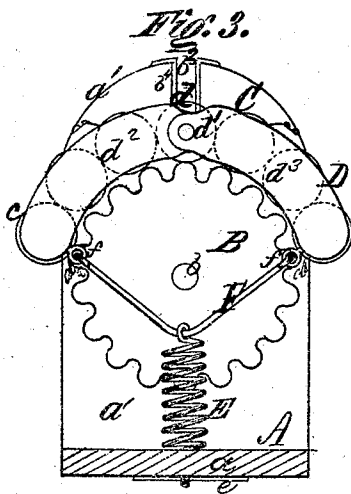
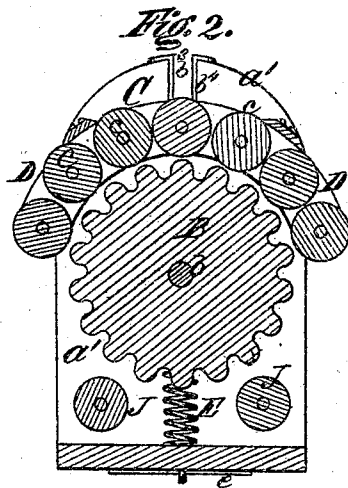
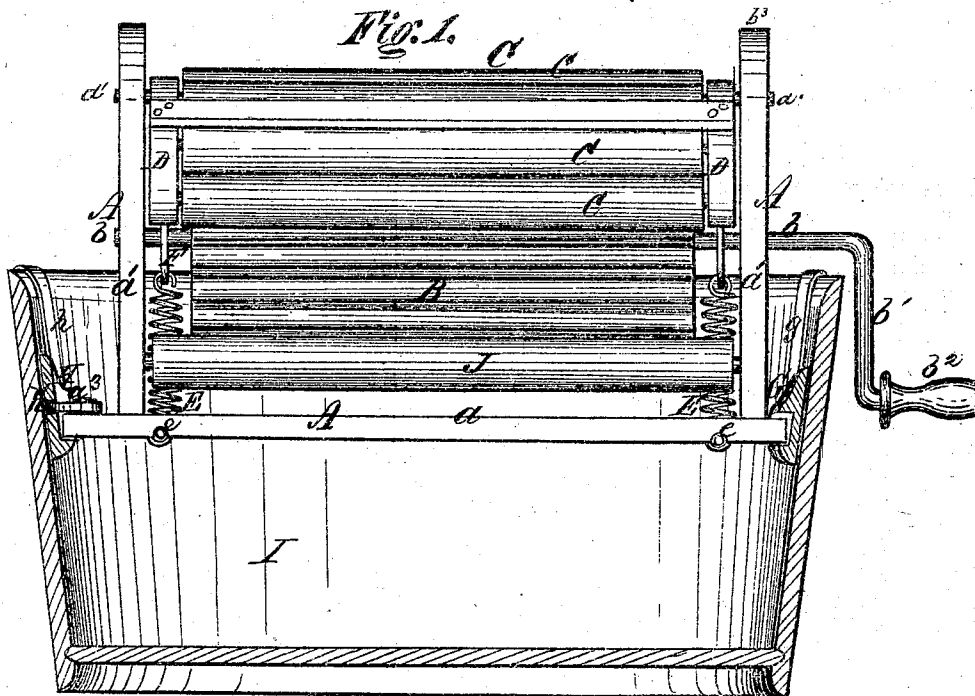


A. H. CALKINS.

Improvement in Washing Machines.

No. 119,965.

Patented Oct. 17, 1871.



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UNITED STATES PATENT OFFICE.

ALMON H. CALKINS, OF LINEVILLE, INDIANA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 119,965, dated October 17, 1871.

To all whom it may concern:

Be it known that I, ALMON H. CALKINS, of Lineville, in the county of Wayne and State of Indiana, have invented a certain new and useful Improvement in Washing-Machines, of which the following is a specification:

My invention has reference to that class of washing-machines which passes the clothes between rollers; and consists of one large central corrugated roller actuated by a crank, and a series of small smooth or spiral rollers connected together and made to fit around and press upon the larger roller by the action of springs, as hereinafter described.

In the drawing, Figure I is an elevation of my improved washing-machine attached to a tub shown in section. Fig. II is a vertical cross-section of the device in plane of line *x x*. Fig. III is a similar view in plane of line *y y*. Figs. IV and V, respectively, perspective elevations of the socket pieces for securing the washer to the tub.

A is a frame-work, consisting of a base piece, *a*, and two upright side pieces *a*¹, attached to the said base piece. In and between the side pieces *a*¹ is hung a large ribbed or corrugated roller, B, upon an axle, *b*, which latter is furnished at one end with a crank, *b*¹, having a handle, *b*². The axle *b* is let into the side pieces *a*¹ by two slots, *b*³, which are furnished with a metallic lining, *b*⁴. *c c c* is a series of small smooth rollers placed in a frame, D, said frame being divided into two parts on each end, and hinged together by the joint *d*, Fig. III, the whole forming a kind of jacket, C, fitting upon the roller B. The rod *d*¹, which forms the joint, by passing through a part of each of the end pieces *d*² *d*³, is extended through the center of one of the rollers *c*, and beyond the frame D, into the slots *b*³, by which arrangement any lateral movement of the central part of the jacket C is prevented. Two spiral springs, E, are secured to the base piece *a*, near to the uprights *a*¹, by means of keys *e*, and the upper part of each is provided with a loop or ring through which passes a wire or rod, F, either end of which is attached at the points *f* *f*¹ to the outer ends of the pieces *d*² *d*³, respectively. G and H are two socket pieces, which are fastened to opposite sides within the tub I by hooks *g h*, and serve the purpose of supporting the frame A,

one end of the base piece *a* being inserted in the socket G, and the other in H, and held securely by turning the button *a*³ into the slot *h*¹. J J are two rollers placed below the center of the large roller B to prevent the clothes from winding around the said roller, or from lodging on the base piece *a*.

The operation of the invention is as follows: The respective parts of the device having been properly put together it is secured in the tub I by inserting the base-board *a* in the socket pieces G H, as just described. The large roller B being put in motion by turning the crank *b*¹ the clothes to be washed, having been previously saturated with water and soap, are presented to the said roller, or between the roller B and the jacket of rollers C. The rotary motion of the larger roller carries the clothes around with it under pressure of the rollers *c c*. These latter bear upon the clothes with a force equal to the elastic resistance of the springs E, and as these springs can be made of any degree of stiffness, any desired amount of compressive power can be brought to bear upon the series of small rollers. After the clothes have been carried nearly through between the rollers *c c* and B, the motion of the crank *b*¹ can be reversed, and they will thus be carried back and the washing or compressing process repeated. This operation of the forward and backward movement may be continued with each garment or "charge," until it is sufficiently washed, when the revolution of the crank is continued in one direction till the clothes are carried out entirely clear of the rollers. Another charge may then be inserted, as before, and the same operation repeated. The rolls I I prevent any delay or damage by reason of the articles winding about the roller B, or catching upon the base *a*. The metallic lining *b*⁴ secures the slots *b*³ from undue wear by the axle *b* or rod *d*. The hinge *d* permits a lateral extension of one or both ends of the jacket C, while the pressure is still continued on the center, thus making the compression uniform over the whole series of rollers. When the central roller is made unusually large, as when adapted to laundry use, an increased number of small rollers will be required, and it will be desirable to hinge the frame D at more than one point.

The advantages secured by this invention are important. By placing the series of small roll-

ers above rather than below the large central roller, a greater number of small rollers can be employed, thereby increasing the efficiency of the machine. The arrangement of the springs E is such that in conjunction with the rods F and joints *d*, they secure both a vertical and a lateral pressure to the series of rollers *cc*. All the working parts of the machine are easily detached one from another, so that if any part becomes worn or accidentally injured it is easily replaced. The principal claim made for the machine is its superior efficiency, and the next, that of convenience in use. To these may be added its small cost and simplicity of construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The construction of the hinge-frame D with its connecting-rod F to contract or expand it,

spring E, and base *a* of frame A, as shown and described.

2. The construction and application of the journal rod *d*, extended through roller C and through slots *b*³ of the uprights A A, serving as a holder and guide, in combination with the rollers *ccc* and B, as shown and described.

3. In combination with the devices claimed in the first and second claims, the devices G H, arranged and operating in connection with the hooks *g h*, tub I, shaft *b*, crank *b*¹, and handle *b*².

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ALMON H. CALKINS.

Witnesses:

C. C. PECK,

GEO. W. MIATT.

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