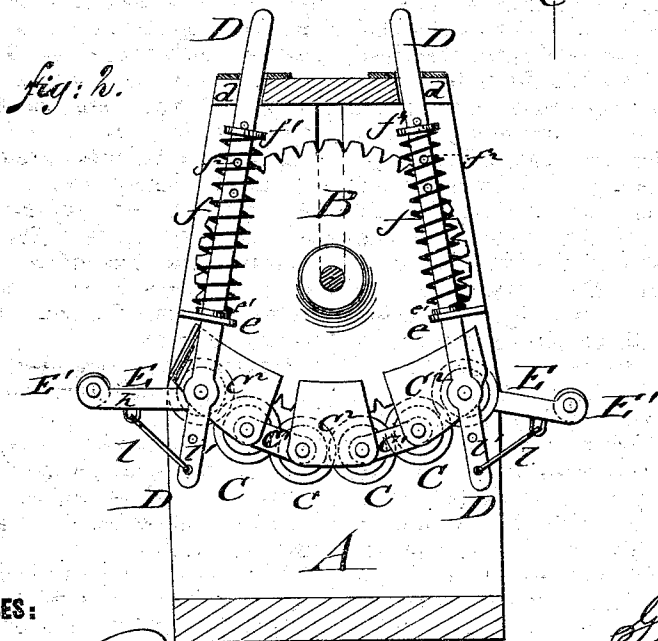
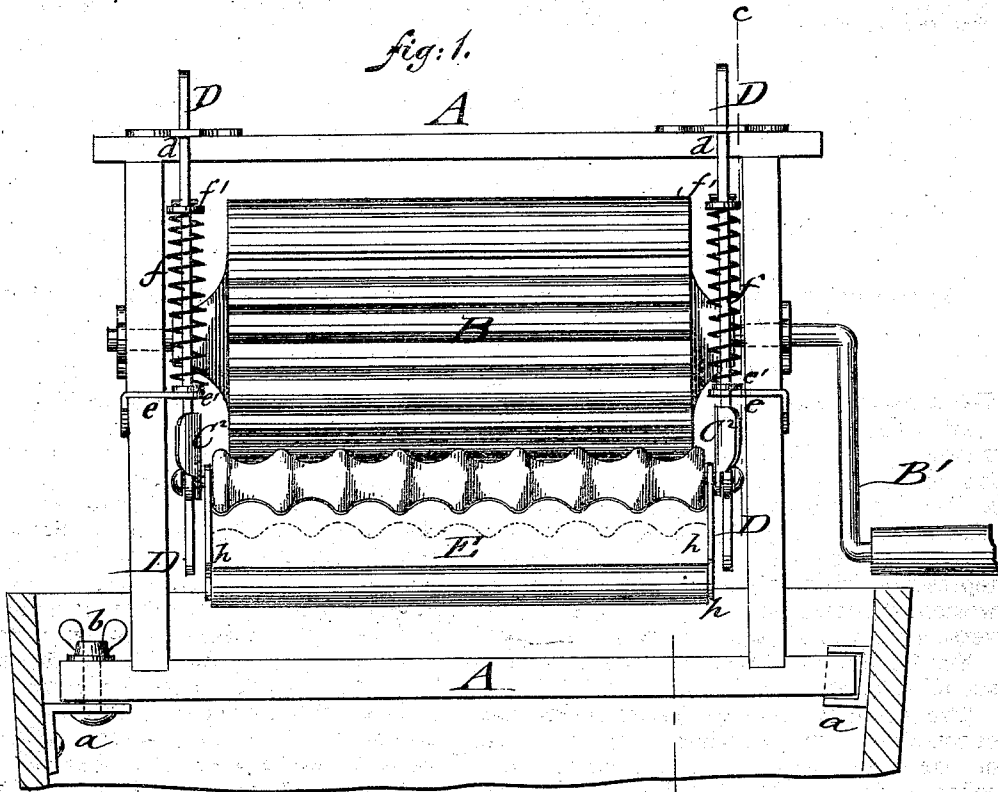


G. L. LECRENIER.
Washing-Machines.

No. 153,969

Patented Aug. 11, 1874.



WITNESSES:

Chas. Nida
Chas. Nida

INVENTOR:

G. L. Lecrenier

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

GILLE F. LECRENIER, OF STOCKPORT, NEW YORK.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **153,969**, dated August 11, 1874; application filed March 14, 1874.

To all whom it may concern:

Be it known that I, GILLE FRANÇOIS LECRENIER, of Stockport, in the county of Columbia and State of New York, have invented a new and Improved Washing-Machine, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front elevation of my improved washing-machine, and Fig. 2 a vertical transverse section of the same on the line *cc*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention is an improvement in the class of washing-machines formed of a large fluted or corrugated roller, and a series of small rollers with a suitable arrangement of springs to exert the requisite pressure on the clothes as they pass between the rollers. The improvement consists in the construction and arrangement of parts as hereinafter described, and specifically indicated in the claims.

In the drawing, A represents the supporting-frame of the washing-machine, which is made of suitable size and material, and connected by base fastenings *a* and thumb-screws *b* to the wash-tub, as shown in Fig. 1. The ribbed or corrugated main roller B is supported in the side standards of frame and rotated by a hand-crank, B'. A series of friction-rollers, C, with alternating indentations are hung by intermediate pivoted links C¹ to bars D, which are guided in apertures *d* of the top part of frame A and staples or should-ers *e* at the sides, and forced in upward direction by means of spiral springs *f* placed around bars D, between washers *e'* of staples *e* and washers and pins *f*¹ at suitable height above the staples. Pins *f*¹ may be adjusted into holes *f*² of spring-bars D, so that the spiral springs may be regulated from time to time, according as their spring action decreases by continued use of the machine. The shafts of friction-rollers C are hung to links C¹ and extended links or guard-plates C², each shaft forming the pivot for a link and plate, and producing thereby a flexible and yielding chain connection of the rollers. The

outermost rollers C and plates C² are pivoted to the spring-bars D, by which the whole series is pressed closely against the main roller and rotated by the friction with the same. The flexibility of the friction-rollers allows the easy and rapid passage of clothes of uneven or partially bulky form without producing too great a strain on the rollers and springs, producing thereby the easier working and durability of the machine. The extension leaves E are pivoted by side links *h* to the shafts of the outer friction-rollers C, and are provided with rollers E, pivoted to the outer ends of the links *h*. Hooks *l* at the under side of leaves F are applied to perforations *l'* of the extensions of bars D below the roller-shafts for supporting thereby the leaves E in horizontal or inclined position during the time the washing-machine is in use, and conducting the clothes over the feed-roller and leaf to the main and friction rollers without injuring and squeezing the fingers, as is now frequently the case.

After use the hooks are detached from bars D, and the leaves swung into pendent position out of the way for bringing the washer into smaller space. The washer becomes thereby more convenient and advantageous for use, especially as the passage of the clothes through the same is considerably expedited thereby.

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

1. The combination of the sliding bars D D, keepers or slotted plates *d e*, and the spiral springs *f f* with the rollers C B, connecting-links C¹, and plates C², all arranged as shown and described.

2. The rollers E', pivoted links *h h*, and hooks *l l*, in combination with the bars D' D, provided with perforated extensions, all as shown and described, for the purpose specified.

GILLE FRANÇOIS LECRENIER.

Witnesses:

GORDON B. REYNOLDS,
R. BURNS REYNOLDS.