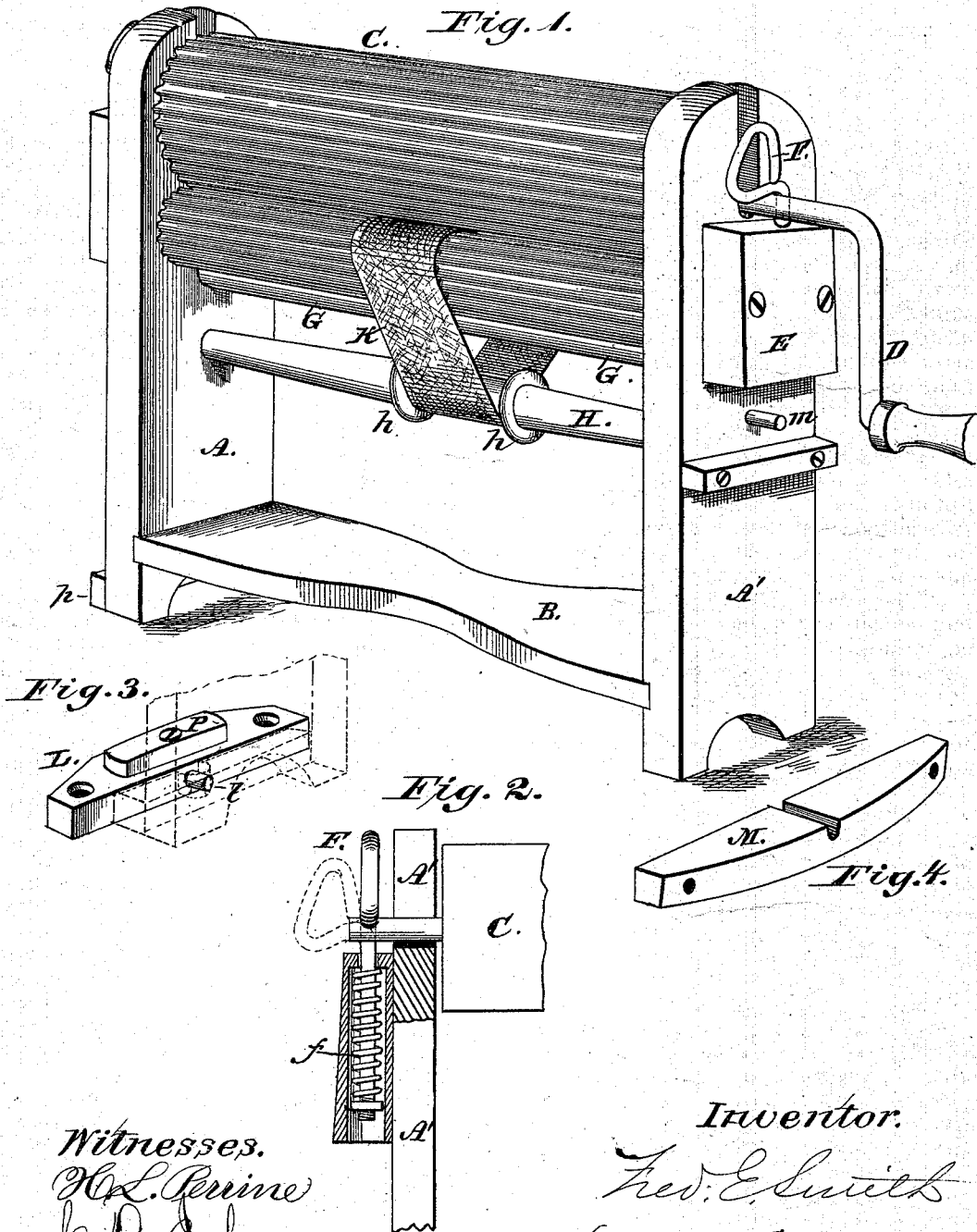


F. E. SMITH.
Washing-Machines.

No. 146,209.

Patented Jan. 6, 1874.



Witnesses.
Chas. Perrine
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UNITED STATES PATENT OFFICE.

FRED. E. SMITH, OF MONTPELIER, VERMONT.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 146,209, dated January 6, 1874; application filed August 29, 1873.

To all whom it may concern:

Be it known that I, FRED. E. SMITH, of Montpelier, in the county of Washington and State of Vermont, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to that class of washing-machines which are secured within a tub, and in which a large roller with crank is arranged to revolve in contact with or near a bed of two or more smaller rolls; and it consists in the construction and arrangement of the different parts of a washing-machine as more fully hereinafter set forth.

In the accompanying drawing, similar letters indicate corresponding parts in the different figures.

Figure 1 is a perspective view of my improved washing-machine. Fig. 2 is a sectional view of one of the end pieces, showing the arrangement of the spiral spring, holding-spindle, and end of the roll-bearing. Fig. 3 is a view of the cleat for fastening the end A of the frame to the bottom of a tub; and Fig. 4 is a view of the cleat for securing the end A' of the frame to the side of a tub.

A A' represent the end pieces of the frame, connected near their lower ends by the cross-piece B. At the upper end of each end piece is a vertical slot for the admission of the journals of the large pressure-roller C, which has the corrugated surface in common use for such purposes, and is provided at one end with a crank, D, by means of which it is operated. Upon the outer surface of each end piece is secured a box or case, E, for the purpose of inclosing and shielding from injury a spring, *f*, Fig. 2. This spring is furnished with a spindle or journal holder, F, which passes downward through its center, and is attached to its lower end, so that raising the journal-holder compresses instead of stretching it. The holder also has a rotating move-

ment upon its axis, thus allowing the roll to be removed when it is turned in one direction, but catching over the journals of the large roller C when turned in the opposite direction, thereby holding it firmly in position, and at the same time allowing of its ready removal when desired. G G represent the smaller rollers, which form the rolling bed, and which have the same corrugated surface as the large roll. H represents the guiding or band roller, connected by the band K with the rollers G G, so as to move in conjunction with them. The band K is retained in proper position by means of the flanges *h h*, and is designed to prevent the articles of clothing being washed from passing downward between the rollers G G, or becoming injured by being caught in their ends.

The machine thus constructed is secured to the wash-tub by means of the cleats L and M, Figs. 3 and 4. The cleat L, Fig. 3, is fastened to the bottom of the tub by means of screws, and is furnished upon one side with a dowel or pin, *l*, which enters a recess in a small cleat fixed on the side of the end piece A, while upon the top it carries a pivoted button, P, intended to be turned over a projection, *p*, on the bottom of the end piece A. The cleat M, Fig. 4, is secured to the inner side of the tub near the middle, and is provided with a horizontal recess for the purpose of receiving the pin *m* on the outer surface of the end piece A'.

It will be seen that when the machine is placed in the tub, the pin *m* on the end piece A' enters the recess in the cleat M, and the other end piece A being secured by the button P and pin or dowel *l*, the whole will be rigidly attached to the tub; and yet the connection is of such a nature that the only manipulation necessary for its release is to simply turn the button, which may be easily done even under hot water, when the whole machine will be released, and may be readily removed.

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

1. The cleat L, attached to the bottom of a tub, and provided with the button P and pin *l*, as and for the purpose specified.

2. The cleat L, provided with the button P and pin *l*, in combination with the end piece A provided with the projection *p*, as shown and described.

3. The cleat M, secured to the side of a tub, and provided with a recess for the reception of the pin *m* upon the side of the end piece A', in combination with the cleat L, button

P, and pin *l*, for effectually securing the machine in a tub, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of August, 1873.

Witnesses:

FRED. E. SMITH.

CARLISLE J. GLEASON,
HENRY K. FIELD.