2 Sheets—Sheet 1.

L. F. BETTS.

WASHING MACHINE.

No. 185,067. Patented Dec. 5, 1876.

FIG. 1.

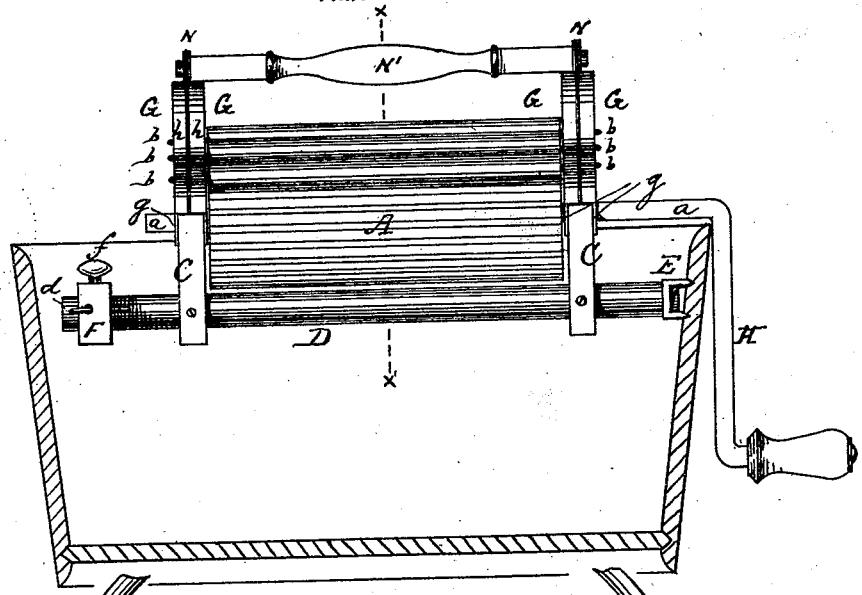
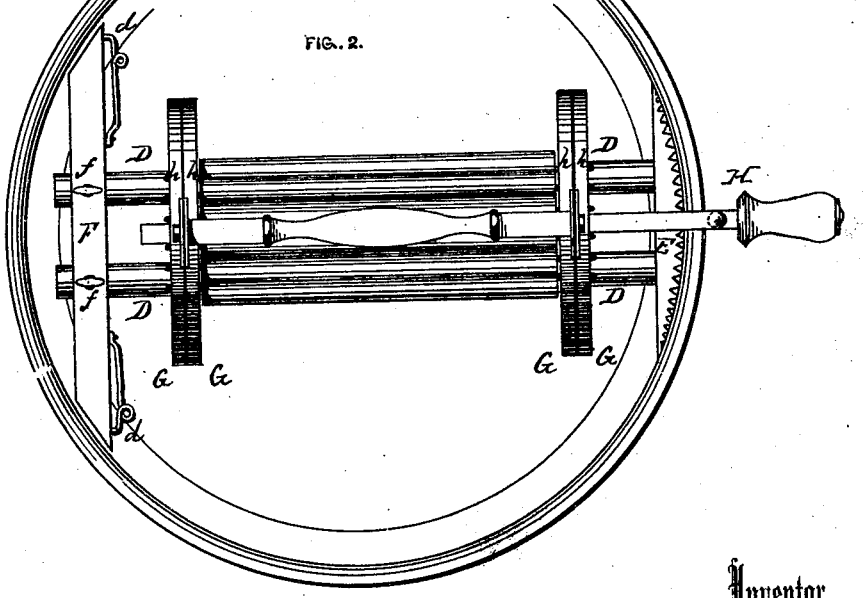


FIG. 2.



Witnesses

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2 Sheets—Sheet 2.

L. F. BETTS.

WASHING MACHINE.

No. 185,067. Patented Dec. 5, 1876.

FIG. 3.

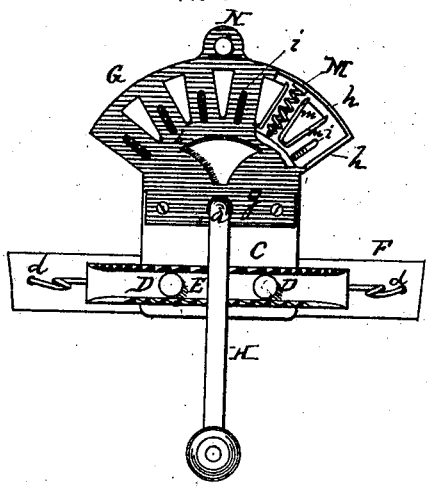
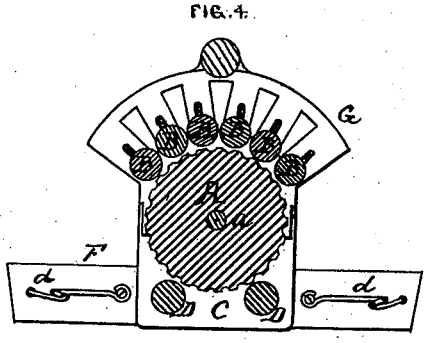


FIG. 4.



Witnesses

Forde R. Smith

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By

Inventor

Lewis F. Betts

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Attorneys

UNITED STATES PATENT OFFICE.

LEWIS F. BETTS, OF CHICAGO, ILL., ASSIGNOR OF ONE-HALF OF HIS RIGHT TO JOSEPH S. DENNIS AND HENRY N. WHEELER, OF SAME PLACE.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **185,067**, dated December 5, 1876; application filed November 6, 1876.

To all whom it may concern:

Be it known that I, LEWIS F. BETTS, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Washing-Machines, of which the following is a specification:

In the accompanying drawing, which forms part of this specification, Figure 1 is a side elevation of one of my improved washing-machines. Fig. 2 is a plan view of the same. Fig. 3 is an end view of the same, and Fig. 4 is a section on line *x x* of Fig. 1.

Like letters of reference denote like parts wherever used in the several figures.

In the said drawing, A represents a central corrugated roller, surmounted by a jacket of small rollers, B B, between which and the said central roller the clothes to be washed are passed to and fro. C C are wooden head-blocks, one at each end of the rolling parts. These blocks are united to each other below by the bars D D, which project toward the sides of the tub, and carry at one end a toothed metal segment, E, and at the other pass through a cross-bar, F, suitably beveled at the ends to fit the curve of the tub. The bars D pass loosely through this cross-bar F, and are held therein by set-screws *f*, affording a means of adjusting the frame-work to different size tubs. A spring-point, *d*, at each end of the cross-bar F serves to prevent the frame-work from slipping about. The said point, when the machine is in place, sets out into the wood of the tub.

G G are metal castings, four of which are used in the construction of each machine. These castings are all alike, and consequently the parts are interchangeable, and but one pattern is necessary. This casting has a projection, *g*, at the bottom, by which it is secured to the wooden head-piece C, and is pierced centrally at this lower part for the passage, and to form a bearing for the shaft *a* of the large roller A. Above this lower portion the casting spreads into a segmental or fan-like form, to afford a bearing for the pivots of the small rollers. A flange, *h*, extends around the edges, so that when two castings are brought together upon one of the wooden head-pieces C a hollow space is formed above the wood, for the reception of the pressure-springs inserted above the small roller pivots *b*. A radial slot, *i*, is formed in the casting for each pivot *b*, and a radial flange, *m*, upon the inner face at each side of the slot, so that the spiral spring M above each small roller pivot shall be held upright in place. A perforated lug, N, at the top of each casting, allows the insertion of the ends of a handle, N′, which serves also as a tie or brace between the heads. H is the crank-handle, by which the large roller is turned and the machine operated.

Each small roller, it will be seen, is independent of every other one, and delivers its yielding pressure upon the large central roller from the force of its own pair of independent springs, uninfluenced by and uninfluencing the others, and this yielding pressure is applied at each end alike and independent of the other end.

A yielding pressure at all times alike, and at no point or time exceeding the force of a single pair of springs, is thus distributed equally throughout the jacket of small rollers. This renders the working of the apparatus smooth and even, and the same, whether the material operated on between the rollers is thick or thin.

In constructing the machine, the peculiar form and similarity of the castings render the assembling of the parts very simple and easy, no fitting or forcing being requisite. The castings are affixed a pair to each wooden block, the springs being inserted in place. The blocks and castings are then brought up to the rollers, and the whole secured together, in the manner clearly above indicated.

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

1. The casting G, four of which are used in the construction of each machine, said casting being formed with radial slots for the reception of the small roller pivots, having radial flanges to form boxing for the springs, and having a circumferential flange to inclose

the hollow space when two castings are brought together face to face, substantially as specified.

2. The combination, with the rollers and wooden head-blocks, of the two pairs of castings G, mounted on the head-blocks, and containing the several springs, substantially as specified.

3. The combination of the large central roller and the jacket of small surmounting rollers, the latter having each a pair of independent springs, one at each end, overlying the pivots, and incased in the head-pieces, substantially as specified.

LEWIS F. BETTS.

Witnesses:
JOHN W. MUNDAY,
EDW. S. EVARTS.