F. HAMBLIN.

Washing-Machine.

No. 223,728. Patented Jan. 20, 1880.

Fig. 1.

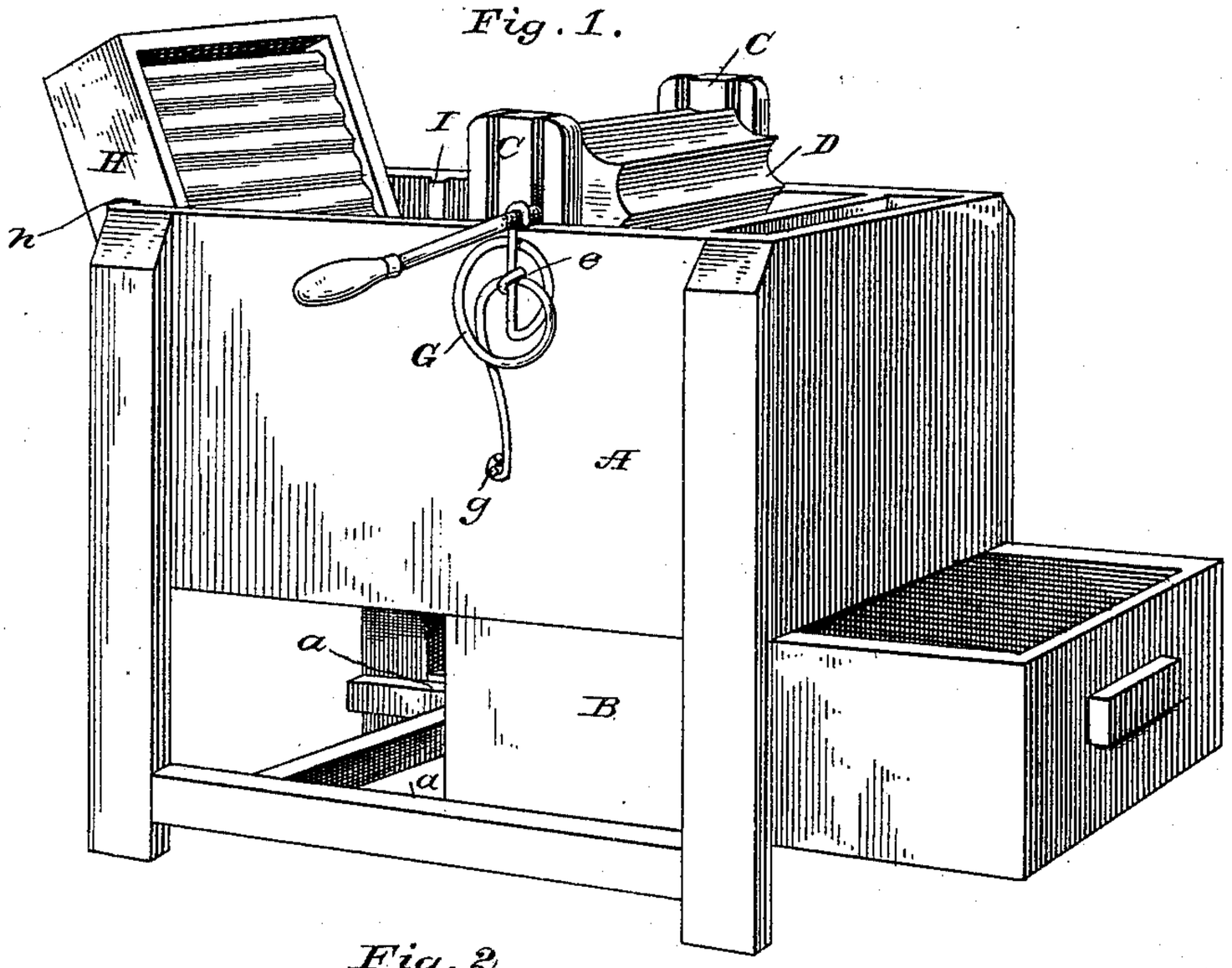


Fig. 2.

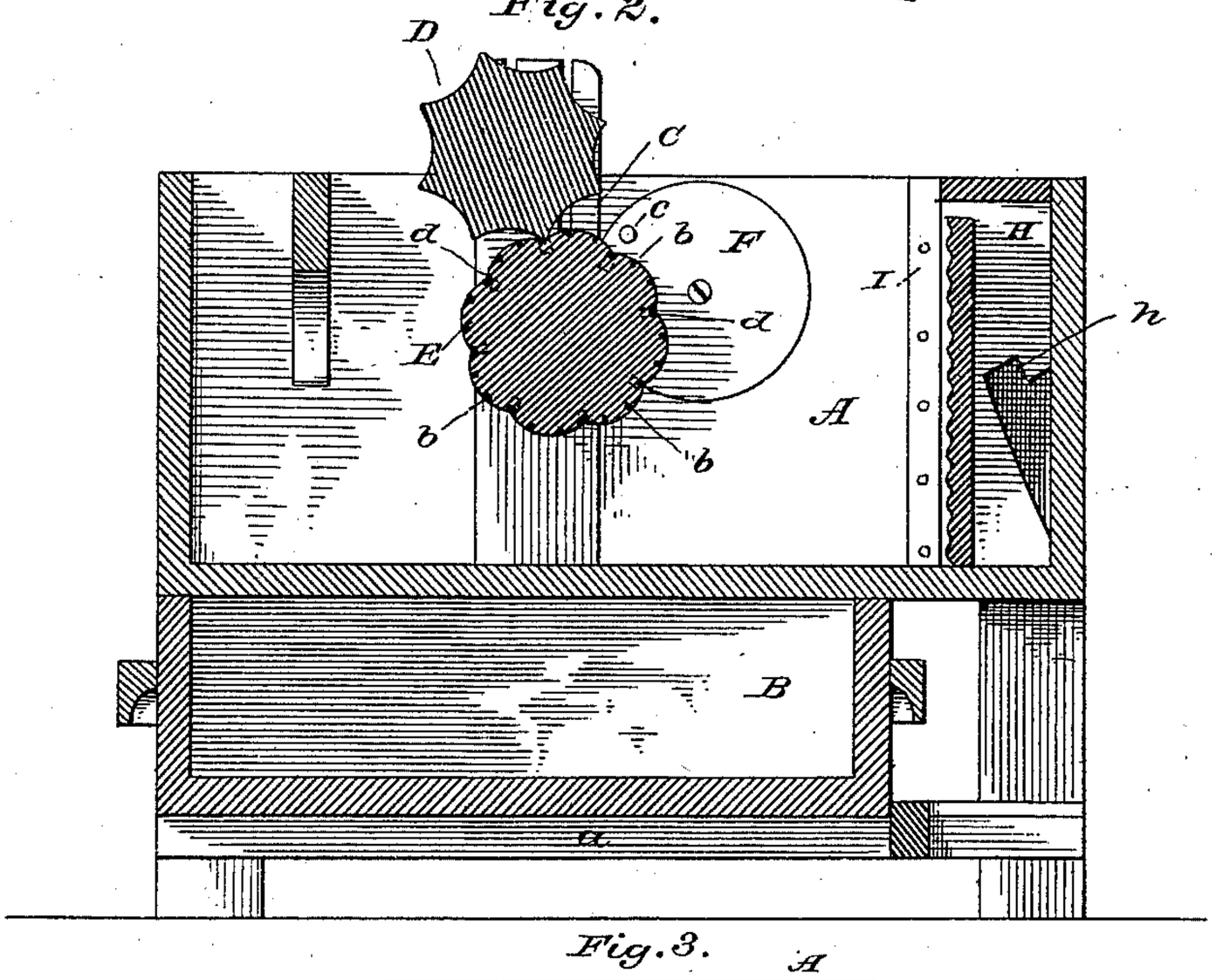
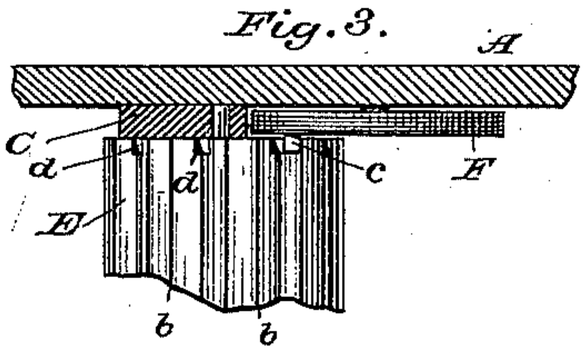


Fig. 3.



Witnesses:

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Atty

UNITED STATES PATENT OFFICE.

FLOYD HAMBLIN, OF BOONVILLE, NEW YORK.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 223,728, dated January 20, 1880.

Application filed November 24, 1879.

To all whom it may concern:

Be it known that I, FLOYD HAMBLIN, of Boonville, in the county of Oneida and State of New York, have invented a new and useful Improvement in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to washing-machines of that class in which the clothes are passed between revolving rolls and cleaned by frictional contact therewith; and its object is to construct a more simple and convenient machine than those of this class generally used, the rolls being so constructed that the possibility of injury to the fabric is lessened, while the efficiency of the machine is increased.

The invention consists in the means for locking one of the rolls and holding it stationary when desired; and, further, in the construction, arrangement, and combination of the operative parts, all as fully hereinafter explained.

In the accompanying drawings, Figure 1 is a perspective. Fig. 2 is a central longitudinal section, and Fig. 3 is a detached view of the locking device.

The machine is contained in a box or case, A, which may be of any desired construction, but is preferably rectangular in shape, as shown. The case or box is mounted on four legs, suitably braced, and sufficient space is left beneath the case for the admission of a drawer, B, sliding in ways *a a*, and of sufficient capacity to hold a large quantity of clothes. Within the case and on opposite sides thereof are two standards, C C, secured to the bottom of the case and slotted longitudinally, as shown, the greater portion of their length, and in these slots are journaled a pair of rolls, D E, the journals of the upper roll, D, resting in grooves on the upper edge of the case.

Pins may be passed through the slots in the standards to keep the upper roll in place. I prefer to provide two slots in the standards, in order that the position of the upper roll may be either exactly over the lower roll or a little on one side, as shown in Fig. 2.

The upper roll is fluted, as shown. The journals of the lower roll, E, rest in the bottom of the slots in the standards, and this roll is provided with convex projections of such a size as exactly to fit the flutings on the upper roll. The revolution of the upper roll will therefore revolve the lower roll in an opposite direction. Each of the rounded projections on the lower roll is provided with one or more longitudinal grooves, *b*, which are intended to increase the frictional or feeding power of the machine without being deep or wide enough to pull or stretch the fabric.

It is usually the case, in the machines ordinarily used, that the corrugated rolls have a tendency to pull and stretch the fabric passing between them. I avoid this by making the elevation on one roll exactly fit the corresponding depression on the other, so that the fabric is simply pressed between the two surfaces without any pulling or stretching. A crank-handle is attached to the upper roll, as shown, by which both rolls are revolved.

In washing heavy fabrics or clothes more than usually soiled it is sometimes desirable to lock one roll in order to increase the friction. I accomplish this by means of a wheel, F, secured upon a pin or screw driven into the inner side of the machine in close proximity to the lower roll, D. This wheel has a spur, *c*, on its inner face near the edge, which engages with slots *d* in the roll E when it is desired to lock said lower roll.

The edge of the wheel F may be roughened, if desired, to give a better hold for the hand in turning.

In order to maintain a continuous pressure of the upper roll on the lower, which shall also be yielding, I provide spring-fastenings G G. (Shown in Fig. 1.) They consist of a piece of wire, one end of which is hooked over the journal of the upper roll, and then, passing down through a staple, *e*, on the side of the case, is bent into a helical spring, and the other end passed through the staple, and provided with a hook for engagement with a stud, *g*, on the case.

It is not necessary to the operation of the device, under ordinary circumstances, that the hook should be engaged with the stud; but when the revolution of the lower roller is stopped, and it is desirable to increase the pressure of the upper roll, it can be effected by connecting the hook with the stud, giving a continuous pressure, at the same time yielding to any inequalities in the cloth, or the at-

tempted passage through the rolls of substances which might otherwise clog them.

For convenience in washing delicate fabrics, which might be injured by passing between the rolls, I provide at one end of the case an adjustable wash-board, H, which, when not in use, is held in place by guides I I, so that it occupies very little space.

In use the board is elevated and supported on the rear edge of the case by means of two diagonal grooves, *h h*, which hold it at the proper inclination for use.

One of the principal advantages of my device depends upon the shape of the rolls, by which a simple pressure is brought on the fabric and any stretching or pulling avoided.

Other advantages, which will be apparent to those skilled in the art, arise from its simplicity, compactness, the adjustability of its parts, and the cheapness with which it can be constructed.

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

1. In a washing-machine, the combination of the roll D, the roll E, having slots *d*, the wheel F, and the spur *c* thereon, substantially as and for the purpose set forth.

2. The described washing-machine, consisting of the upper fluted roll, D, and the lower roll, E, having convex projections, a helical spring for increasing the pressure of the upper upon the lower roll, and a wheel and spur acting in connection with grooves in the lower roll for holding such roll stationary, substantially as described and shown.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FLOYD HAMBLIN.

Witnesses:
H. H. HAMBLIN,
E. E. REYNOLDS.