A. S. HART.

WASHING-MACHINE.

No. 186,727. Patented Jan. 30, 1877.

Fig. 1.

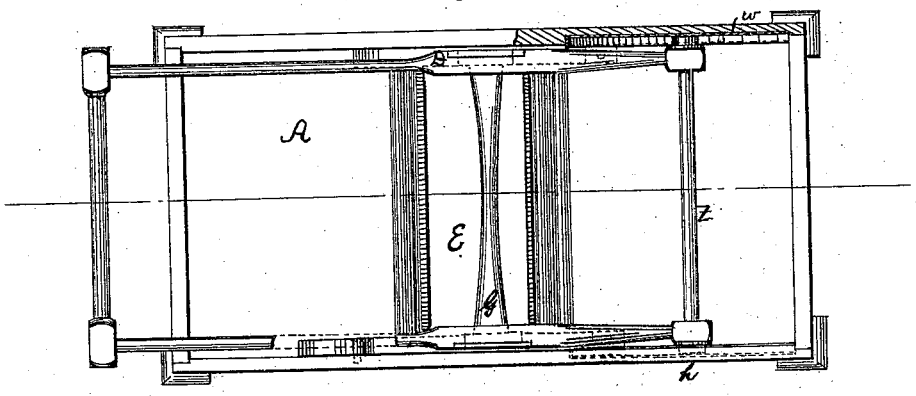

Fig. 2.

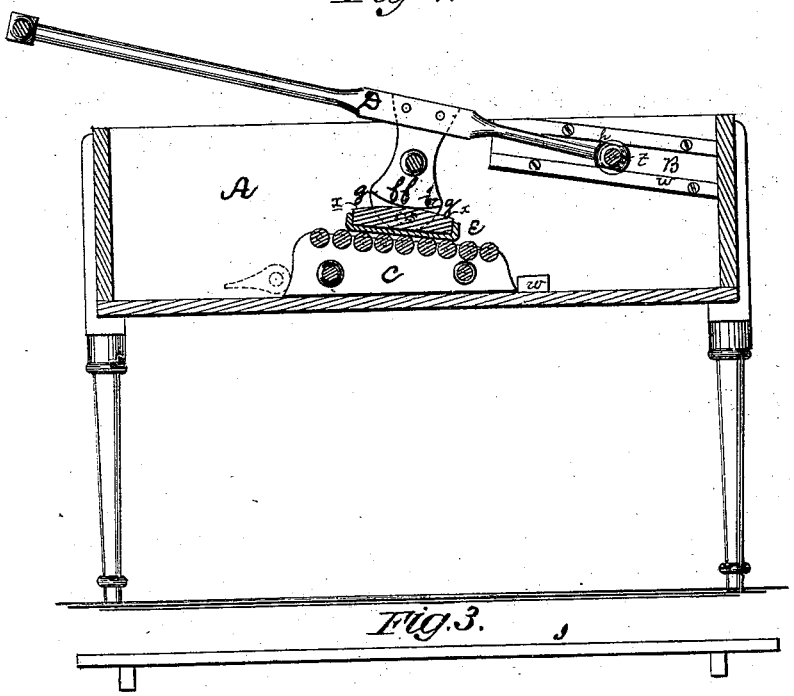

Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

ALBERT S. HART, OF HOBOKEN, NEW JERSEY, ASSIGNOR TO AUSTIN A. SPAULDING, OF NORFOLK, CONNECTICUT.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **186,727**, dated January 30, 1877; application filed February 10, 1876.

To all whom it may concern:

Be it known that I, ALBERT S. HART, of the city of Hoboken, in the State of New Jersey, have invented certain new and useful Improvements in Washing-Machines; and I do declare the following is a full and exact description of said improvements, reference being had to the accompanying drawing, making part of this specification.

My invention relates to improvements in that class of washing-machines in which a guided hand-frame carrying a rubber reciprocates above a roller-bed; and the object of my invention is to render the machine more effective and durable, and to reduce the amount of power required to operate it.

To enable those skilled in the art to make and use my invention, I will describe the construction and operation of my improved washing-machine, referring by letters to the accompanying drawing.

Figure 1 is a vertical representation or view of the machine. Fig. 2 is a sectional view of the same. Fig. 3 is the cover.

In Figs. 1 and 2 is shown an ordinary box or tub, A, about three feet long by eighteen inches wide and ten inches deep. This box or tub is supported on legs about twenty inches in length, so that when the tub is covered, as hereinafter described, it will form a table of the ordinary length for ironing purposes. Within the box or tub A, and within the sides of the box or tub, and at the end farthest from the operator, are grooves or guides B, inclined at the same angle with the bottom of the tub A as the bed of the rollers hereinafter described. The guides are formed by inserting bent thin metal plates *w* in grooves in the sides of the box A, thus avoiding any projections within the box, and insuring a strong, broad, and steady bearing for the rollers *t* of the frame D. At the bottom of the tub A, and about the center thereof, is a raised platform of about nine or twelve rollers, C. The platform of rollers C is movable, and is inclined at an angle of about ten degrees, the most elevated part being nearest to the front of the machine. This platform of rollers may be removed from the box or tub A whenever it is needed for rinsing clothes or other purposes. When the platform of rollers C is in its proper place within the box or tub A, it may be secured in its place by means of a nut-key or other suitable device.

D D, in Figs. 1 and 2, is the frame upon which is adjusted the rubber-board E. The frame D D is little less than three feet long by eighteen inches wide, and may be deposited within the box or tub A when not in use. The rubber-board E is attached to the frame D D by two hangers or depending supports *f f*, mortised or let into the frame D D, and fastened by means of screws *s*, or other means, the hangers or supports *f f* being also strengthened or steadied by a cross-bar, G, extending from one to the other. Upon the hangers or supports *f f* is pivoted the rubber-board E, made of wood and covered or faced with carpet material, or other suitable substance. I prefer to use the ordinary Brussels carpet because of its wiry clinging surface. The rubber-board E is hinged upon the hangers or supports, so that its curved faces *x* will be in contact with the curved shoulders *g* of the supports, thus permitting heavy pressure to be applied to the frame D and to the board E, whatever may be their relative angles, without the least strain on the screws *s*, which merely serve to retain the parts in position.

The frame D D is provided with metallic journals or flanged rollers *h h* at the ends of the lower cross-bar *t* of the frame. When the frame D D is placed within the box or tub A for use, the rollers *h h* are inserted in the grooves or guide B, and are made by the operation of the frame D D to move backward and forward in the grooves B, carrying the rubber-board E along the face of the platform of rollers C.

The roller-bed and guides B are placed at an angle, as the force can thus be applied in the direct line of thrust from the shoulder of the operator, who can therefore work more effectively than when the movement is horizontal and not in a line with the shoulder. It will be seen that as the roller-platform is inclined in a line parallel to the guide-grooves B, the forward thrust of the frame D will be effected without that binding action which would result if these lines approached each

other, or without the lifting of the bed E, which would ensue if the lines diverged, friction being prevented, the operating of the frame requiring less power, and the efficiency of the machine being increased.

As the roller-frame C has its bearings against lugs *w*, against which it is forced by the cam or other fastening, the bottom of the tub is left unobstructed, so as to be more readily cleaned, and so as not to interfere with its use for other purposes when the washing apparatus is removed.

When the operation of washing is finished the platform of rollers C and the frame D D may be packed within the box or tub A, and a proper cover, I, Fig. 3, fitted to the top of the box or tub A converts it into a table for ironing or other purposes.

Having fully described my invention, what I claim to secure by Letters Patent is—

The frame D, its hangers *f*, having curved shoulders *g*, in combination with the rubber-board E, pivoted to the hangers, and having curved faces *x* bearing on the shoulders *g*, as specified.

A. S. HART.

Witnesses:
GEO. STEVENSON,
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