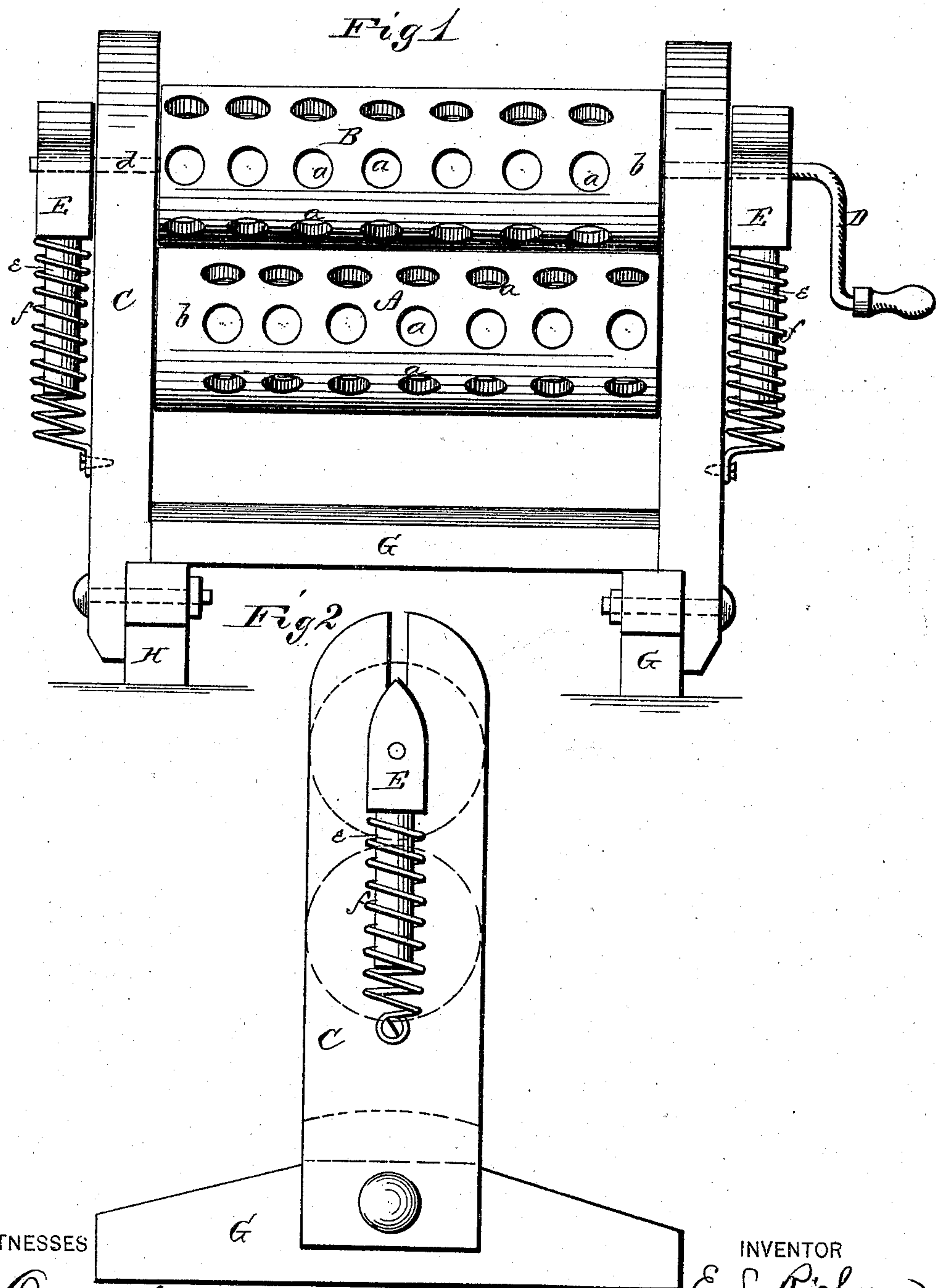


E. S. RICHMOND.  
WASHING-MACHINE.

No. 171,169.

Patented Dec. 14, 1875.



WITNESSES

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# UNITED STATES PATENT OFFICE.

ELI S. RICHMOND, OF ABERDEEN, INDIANA, ASSIGNOR OF ONE-HALF HIS  
RIGHT TO HIRAM L. RICHMOND, OF SAME PLACE.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **171,169**, dated December 14, 1875; application filed  
February 18, 1875.

*To all whom it may concern:*

Be it known that I, ELI S. RICHMOND, of Aberdeen, in the county of Ohio and in the State of Indiana, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a washing-machine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation, and Fig. 2 an end view, of my machine.

A and B represent two parallel rollers of any suitable dimensions, bored with series of circular recesses or holes *a a*. The rollers are bored or perforated by beginning near one end, leaving vacant space equal to the width of the holes, and coming out so as to leave a blank space, *b*, at opposite ends, the holes being at equal distances apart, and arranged in parallel rows, both longitudinally and circumferentially. In ordinary-sized machines the holes should be three-fourths of an inch in diameter, and three-fourths of an inch deep. The rollers are reversed, bringing the holes on each roller directly between the holes on the other. The lower roller A is at its ends provided with suitable pivots, and hung in the center of upright posts C C. The upper roller B has a crank, D, at one end, and a long pivot, *d*, at the other. The crank D and pivot *d* are placed in slots at the upper ends of the posts C C, and on each is placed a block, E, having a downward-projecting pin, *e*, around which is placed a coil-wire spring, *f*. The top ends of the springs *f* are secured to the blocks, and the lower ends drawn down and secured to the posts by screws. Near the bottom of the posts is framed a cross-piece, G, and on the inside, and at the bottom of each post, is boxed a cross foot-piece, H, which is

firmly set against the cross-piece G, and bolted to the posts, making a self-supporting frame.

The process of washing consists in forcing the suds through the texture or mesh of the clothes as they pass between the rollers. The heat in the hot suds forms an exhaust of air in the holes, creating a suction, which is highly beneficial in the use to which it is applied. Garments can pass backward and forward, or from end to end, or be allowed to wind around the lower roller, drawing them off and reversing the ends at the operator's will.

The machine is screwed to the bottom of a tub with the crank outside of the tub, for use in families.

It will be seen that the perforations in the two rollers are so arranged that every hole on each roller faces a blank space on the other roller. This is done in order to have the suds forced through the texture or mesh of the cloth, both up and down, or through and through each way, as the article in the wash is passed back and forth between the rollers. When the water is very hot it is plainly seen that the cloth buffs up into these holes more than it does when the water is cold. The exhaust in the holes produced by the heat and steam from the water causes this buffing to take place.

In my machine there is pressure instead of friction as the mode of cleansing, and the rollers act as smoothly as though they were plain.

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

The combination of the rollers A B, having holes *a* and blank spaces, and arranged upon the frame so that the holes of one roller will be opposite the blank spaces of the other roller, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of December, 1874.

ELI S. RICHMOND.

Witnesses:

H. M. McDANIEL,  
R. G. FLEMING.