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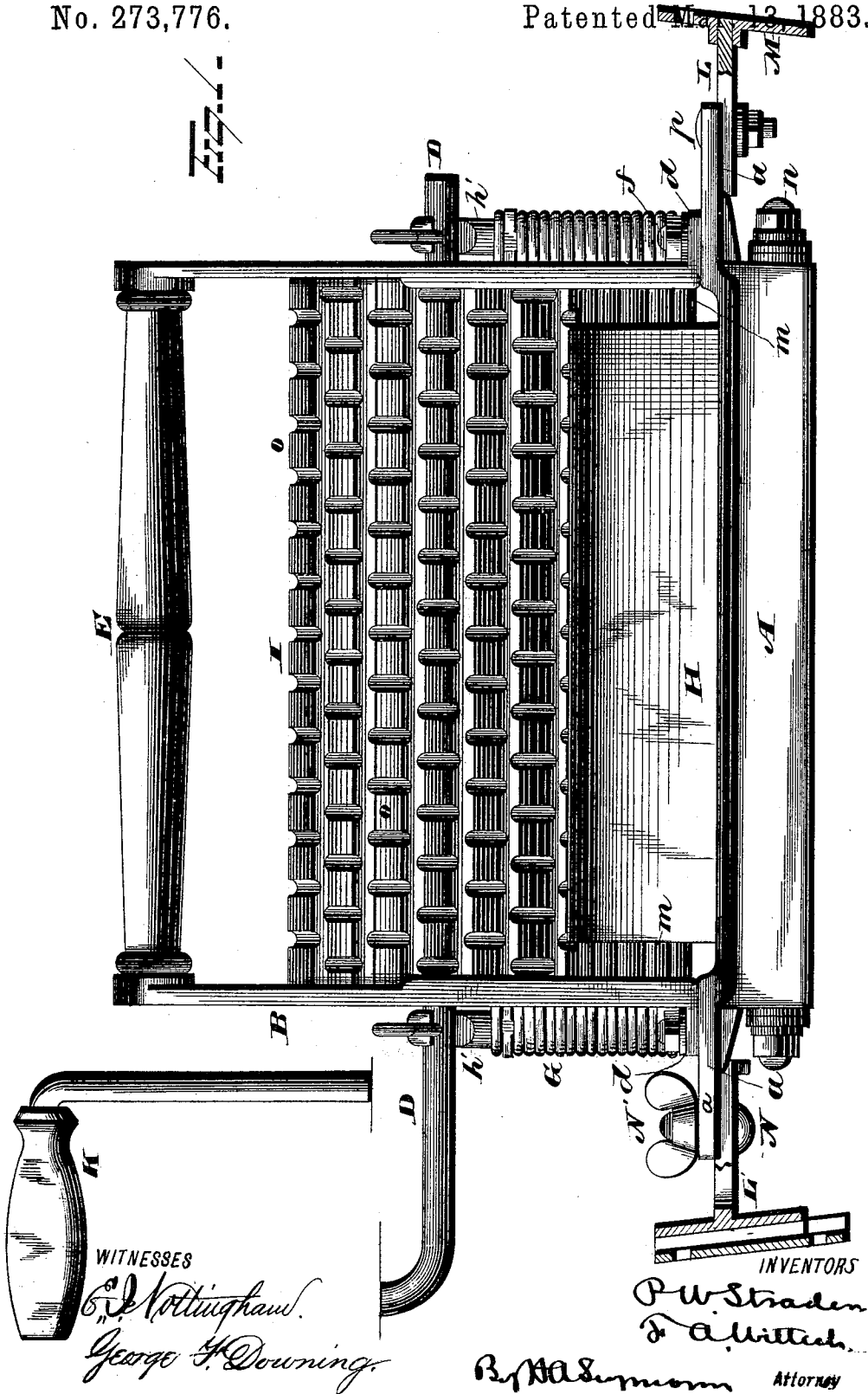
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P. W. STRADER & F. A. WITTICH.

WASHING MACHINE.

No. 273,776.

Patented May 12 1883.



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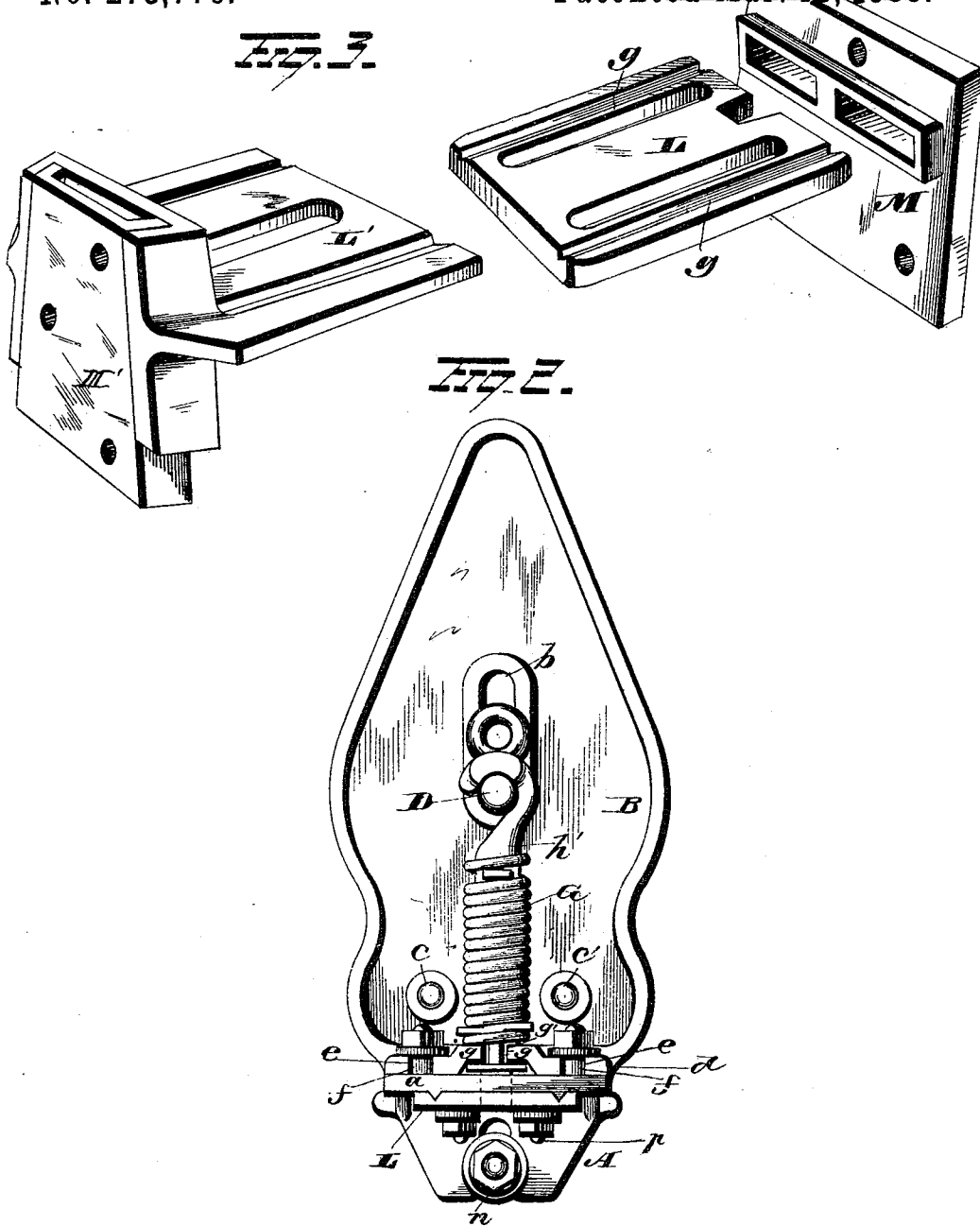
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WITNESSES  
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3 Sheets—Sheet 3.

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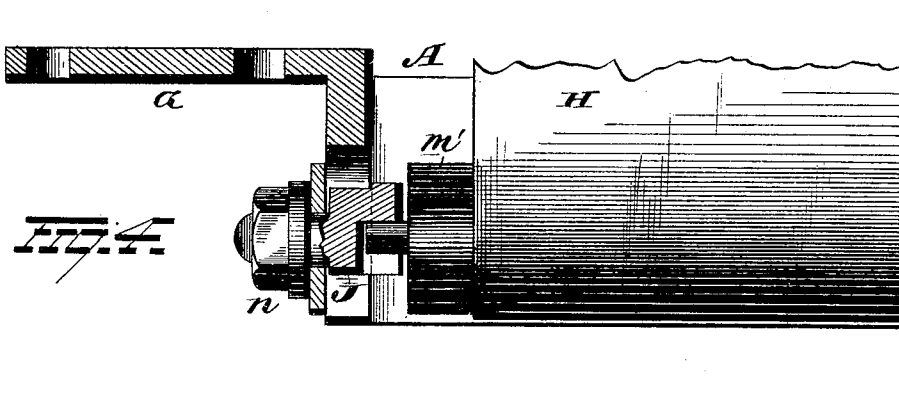
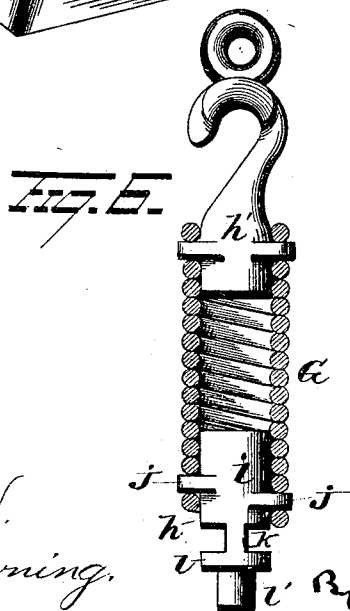
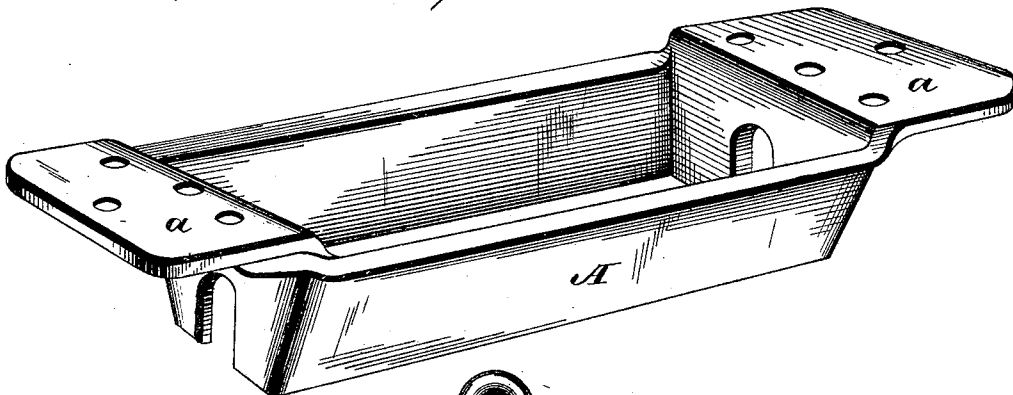


Fig. 5.



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# UNITED STATES PATENT OFFICE.

PETER W. STRADER AND FREDERICK A. WITTICH, OF ASHTABULA, OHIO,  
ASSIGNORS TO STRADER BROS., OF SAME PLACE.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 273,776, dated March 13, 1883.

Application filed December 4, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, PETER W. STRADER and FREDERICK A. WITTICH, of Ashtabula, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Roller Washing-Machines; and we 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 the same.

Our invention relates to an improvement in roller washing-machines, the object of the same being to provide an adjustable device adapted for use in any ordinary-sized wash-tub, and one that will combine simplicity and economy in construction with durability and efficiency in use; and with these ends in view our invention consists in certain details in construction and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation of our improvement. Fig. 2 is an end view of the same, partly in section, showing the manner of securing the lower ends of the springs in position. Fig. 3 shows in detached views the manner of securing the machine to a tub. Fig. 4 shows in a detached view the journal-boxes for the ends of the lower roller. Fig. 5 is a detached view of the trough-shaped base, and Fig. 6 is a detached view of one of the springs.

A represents the metallic trough-shaped base, open at top and bottom, and provided at opposite ends with the lateral extensions *a*, on which the standards *B* are secured, and to which the end pieces, *C*, are adjustably secured. The side standards, *B*, are each provided with an oblong slot, *b*, in which the roller-shaft *D* is journaled, and two small openings, in which the ends of the roller-shafts *c* and *c'* are journaled. The upper extremities of the standards *B* are secured together by the cross-bar *E*, which latter also serves as a handle for moving the machine when necessary, while the lower ends thereof are provided with outwardly-turned flanges, *d*, which afford firm and solid rests for the standards *B*. Each flange *d* is provided near its opposite side edges with open slots *e* for the passage of the binding-

screws *f*, and centrally with two upwardly and inwardly projecting lips, *g*, separated by the open slot *g'*, into which the lower heads, *h*, of the springs *G* are removably secured. These lower heads of the springs *G* are each composed of a body, *i*, having two or more projections, *j*, adapted to enter between the coils of the spring, and be rigidly held in place, a restricted neck, *k*, which rests in the slot *g'* between the lips *g*, the enlarged portion *l*, which rests under the lips *g*, and the end *l'*, which passes through an opening in the side extension, *a*, of the trough-shaped base *A*. This construction rigidly holds the lower ends of the springs in position, while the upper heads, *h'*, which are each provided with a body similar to the lower heads, are secured to the springs in a similar manner, but are hook-shaped at their upper ends for the purpose of grasping the shaft *D* of the upper roll and holding it down in proper position on the endless apron *H*. By means of the oblong slots *b* in the standards and the springs *G* the upper or large roller is allowed to move vertically when garments being washed are passed under it. Two small longitudinally-corrugated rollers, *m*, are journaled in the same horizontal plane in the side standards below the large roller *I*, and a third small plain-surfaced roller, *m'*, is journaled in the adjustable journal-boxes *J*, which latter are adjustably secured to trough-shaped base centrally below the two rollers. Each end piece of the trough-shaped base is provided with an open slot opening downwardly, into which these journal-boxes are secured by the nuts *n*. By loosening the nuts the journal-boxes *J* and roller *m'* can be moved vertically up and down, so as to tighten or loosen the endless apron, as circumstances demand. This endless apron *H* is wound around the three rollers, and, in conjunction with the large roller *I*, the particular construction of which will be hereinafter described, are adapted to operate in the ordinary manner and thoroughly wash the clothes or other articles. The lower roll is situated well down in the trough-shaped base, and is completely protected thereby and prevented from contact with the garments being washed, which ob-

viates the danger of clogging the parts. The large roller I is composed of a cylindrical wooden core, having the longitudinal strips o secured thereon side by side, each strip being  
 5 beveled on its side edges, and provided with transverse grooves, the grooves of the different strips, when the latter are secured in position, being alternately arranged, so as to present a broken and irregular surfaced roller.  
 10 This large roller I is provided with a handle K, by means of which the machine is operated. When the parts are arranged in position the upper roller bears on the two small rollers arranged immediately underneath the same,  
 15 and by contact therewith revolves them in the proper direction.

LL' are the adjustable end pieces by means of which the length of the machine can be increased and diminished to accommodate the  
 20 washer to any ordinary-sized tub. The end piece, L, is in the present instance provided with two oblong slots for the passage of the binding-screws p, and on its upper face with one or more grooves or gutters, g, adapted to  
 25 register with one or more ribs on the under face of the lateral extension a and hold the adjustable end piece in proper relative position thereon. The free extremity of this adjustable end piece is adapted to be received into the recessed holder M, which latter is secured well  
 30 down on the inside of the tub. The opposite adjustable end piece, L', is also provided with one or more oblong slots, (preferably one,) through which the screw-bolt N passes. A thumb-screw, N', is screwed onto this bolt, and serves to hold the parts together and at the same time allows the length of the washer to be increased or diminished without the aid of  
 35 screw-drivers or wrenches. The outer or free end of this adjustable end piece terminates in a vertical wedge-shaped bearing formed integral with the adjustable end piece, L'. This bearing is provided with beveled or inclined sides, which closely embrace the wedge-shaped  
 40 block M', which latter is secured well down on the inside of the tub. The adjustable end L of the machine-frame is first placed in the recessed holder M, and the opposite or wedge end is let down over the wedge-shaped holder M'. The  
 45 side standards of the machine are made of any desired design, and are wide enough to completely protect the ends of the rollers. The parts excepting the rollers are made of cast metal, and may be galvanized or not, as desired. By means of the adjustable end pieces  
 50 on both ends of the base, the machine can always set in the center of the tub, and thereby equalize the strain on all the parts.

Our improved device is simple in construction, is of few parts, can be taken apart for  
 60 transportation, and is durable and effective in

use. By making the base trough shape, each part acts as a brace to the others, and greater strength and stiffness are procured with less weight of metal.

It is evident that slight changes in the construction and relative arrangement of parts might be resorted to without departing from the spirit and scope of our invention, and hence we would have it understood that we do not  
 65 limit ourselves to the exact construction shown and described, but consider ourselves at liberty to make such changes and alterations as fairly fall within the spirit and scope of our invention.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the main roller I and the two small lower rollers, m m, of the endless apron passing directly across from one  
 70 of said lower rollers to the other in contact with the lower surface of the main roller, substantially as described.

2. In a washing-machine, the combination, with the open trough-shaped base having end  
 75 pieces, a a, formed integral therewith, of the attaching-pieces L L', adjustably secured to the end pieces, and the holders M M', substantially as set forth.

3. The combination, with the open trough-shaped base provided at opposite ends with open oblong slots, and the journal-boxes adjustably secured in the said oblong slots, of the side standards, the large roller, operating-handle, the series of small rollers, the lower  
 80 one of which is journaled in the adjustable boxes in the base, and the endless apron, all of the above parts combined and adapted to operate as described.

4. The combination, with the base provided at opposite ends with lateral extensions and having ridges formed on their lower faces, of the end pieces adjustably secured to the said lateral extensions, and provided with grooves or gutters adapted to register with the ridges  
 85 on the lateral extensions of the base, substantially as and for the purpose set forth.

5. The combination, with the standards B and open trough-shaped base A, of the main upper roller, I, the two lower rollers, m m, and the adjustable bottom roller, m', of the endless  
 90 apron H, passing directly from one of the rollers m to the other and around the adjustable bottom roller, substantially as described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

PETER W. STRADER.  
 FREDERICK A. WITTICH.

Witnesses:

T. E. HOYT,  
 J. F. MUNSELL.