2 Sheets--Sheet 1.

C. C. SNOW.

Washing-Machines.

No. 153,224. Patented July 21, 1874.

Fig. 1

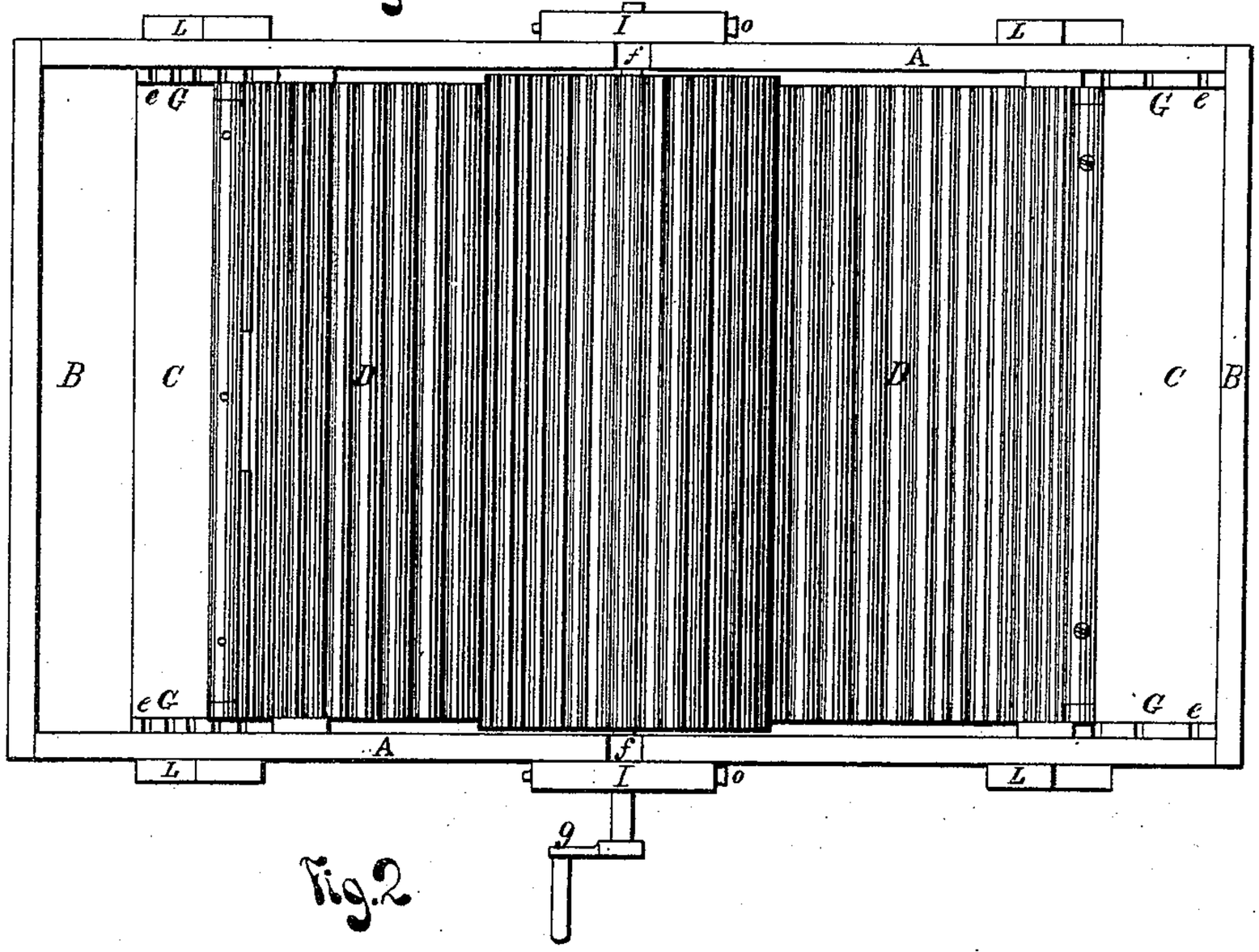
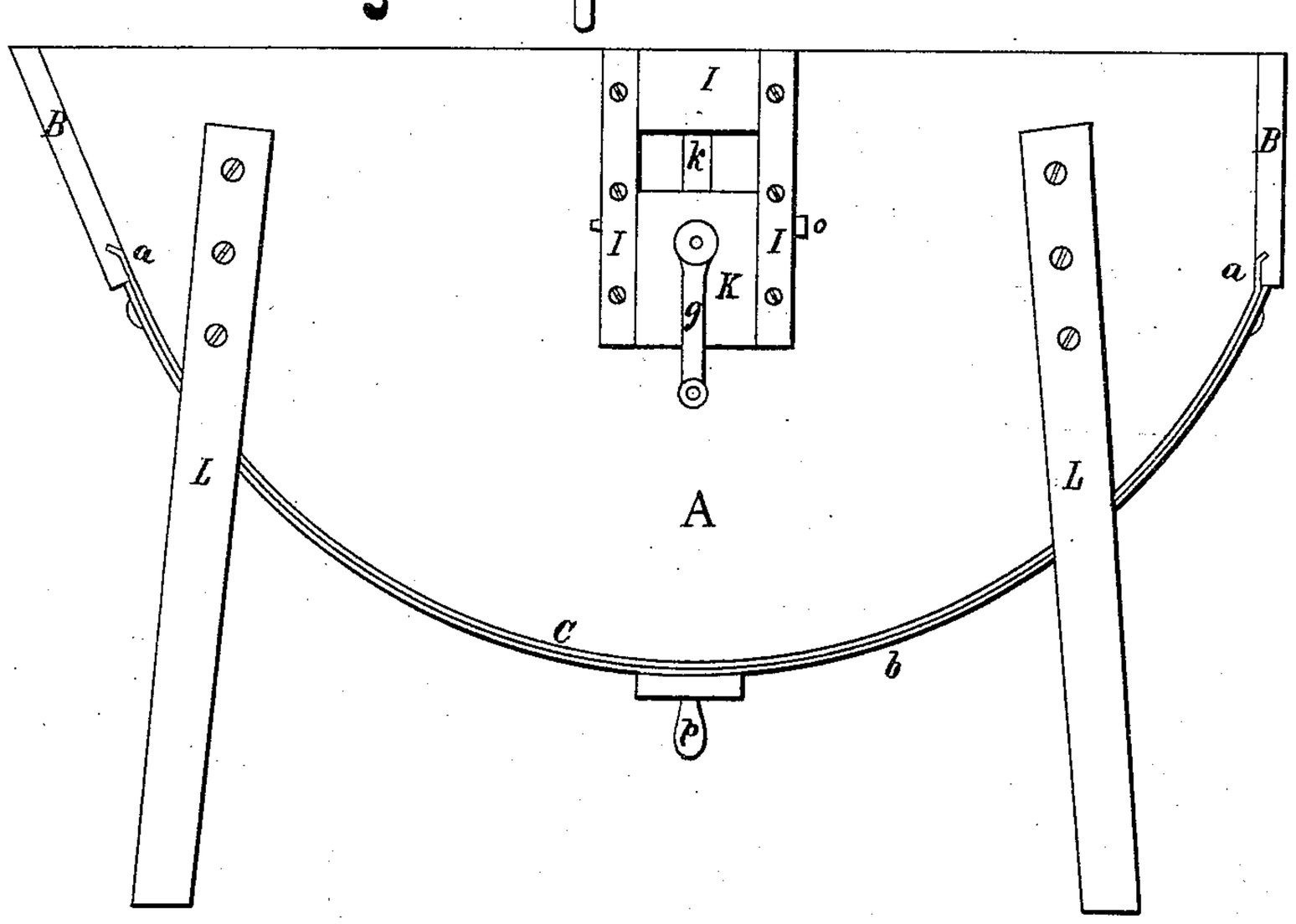


Fig. 2



Witnesses.

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2 Sheets--Sheet 2.

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Fig. 3

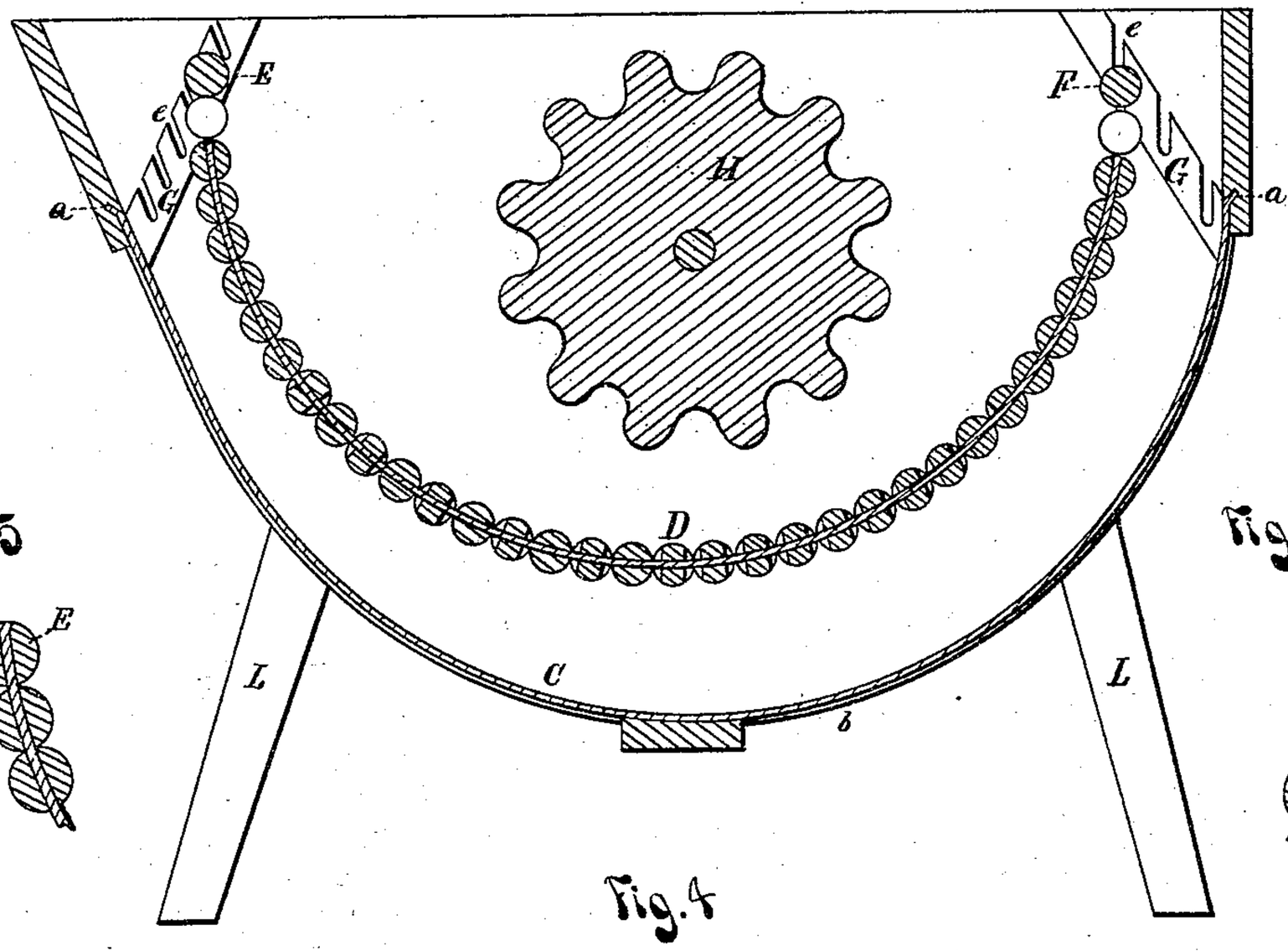


Fig. 4

Fig. 5

Fig. 6

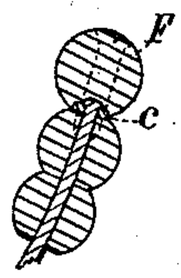
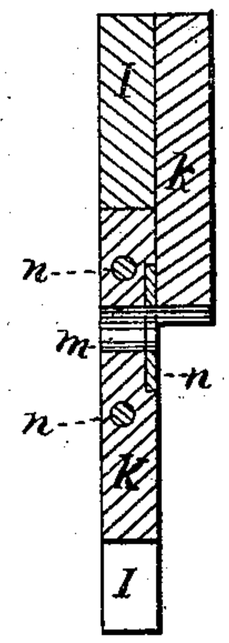


Fig. 12



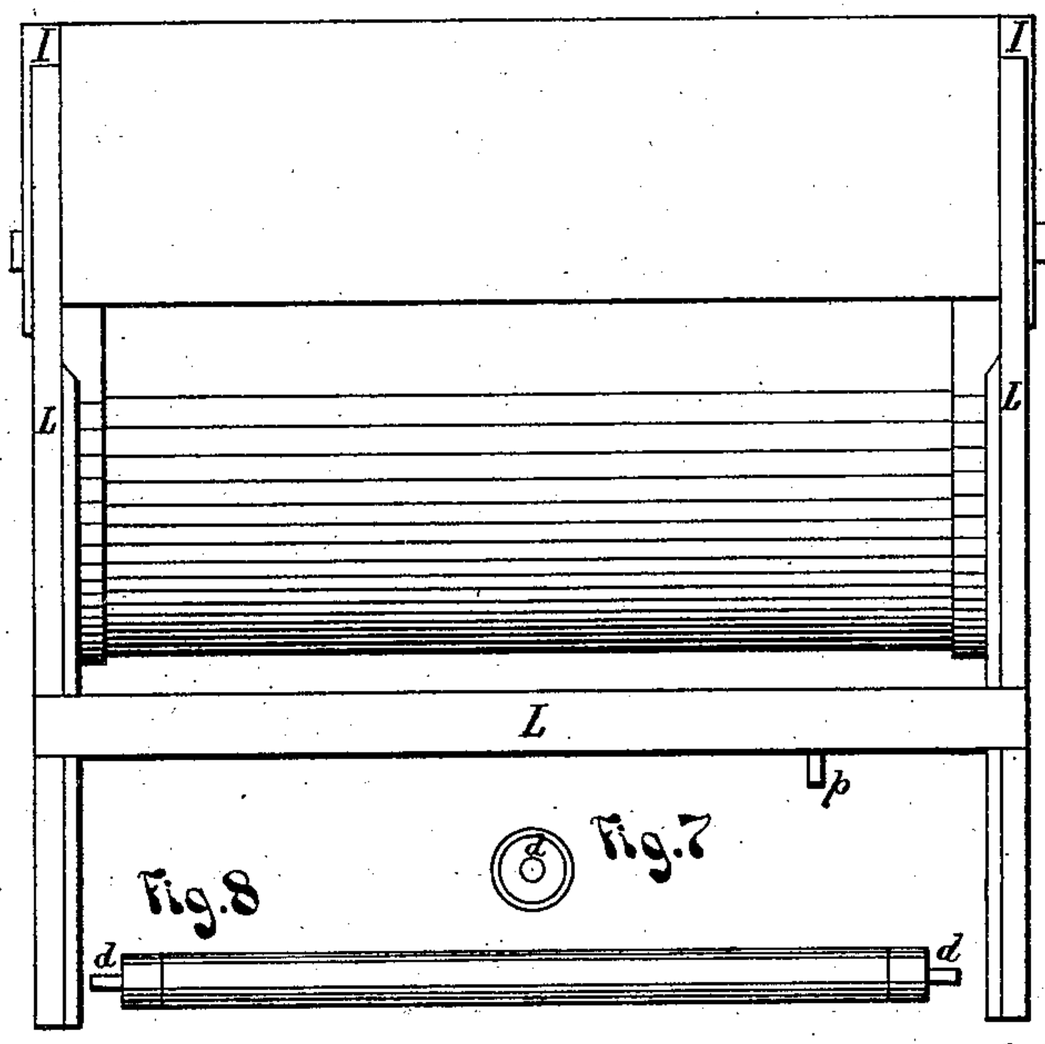
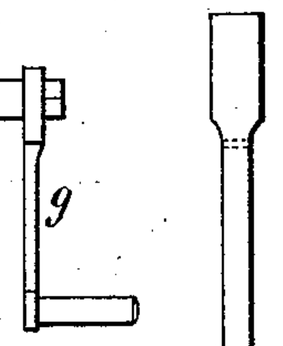


Fig. 13



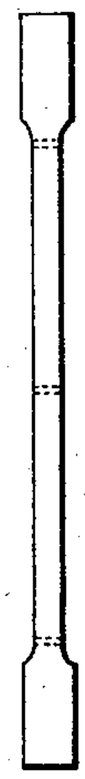


Fig. 8

Fig. 7

Fig. 9

Fig. 10

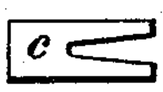


Fig. 11

Witnesses.

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UNITED STATES PATENT OFFICE

CHARLES C. SNOW, OF CHILLICOTHE, MISSOURI.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **153,224**, dated July 21, 1874; application filed March 9, 1874.

To all whom it may concern:

Be it known that I, CHARLES C. SNOW, of Chillicothe, in the county of Livingston and State of Missouri, have invented a new and valuable Improvement in a Washing-Machine; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of my device. Fig. 2 is a side elevation of the same. Fig. 3 is a longitudinal section of the same. Fig. 4 is an end view of the same. Fig. 5 is a sectional view of three end rollers of the wash-board, showing the fastening of the spring-wire at that end. Fig. 6 is a sectional view of the three opposite end rollers, showing the mode of fastening the spring-wire at that end, and the attaching of the end roller F. Fig. 7 is an end view of an end roller of the wash-board. Fig. 8 is a side view of the same. Fig. 9 is a side view of the same squared. Fig. 10 is a top view of the slotted metal plate *c*. Fig. 11 is an end view of the roller squared. Fig. 12 is a sectional view of the sliding block, showing the united parts of the same, the guide-frame, the journal-hole, and the annular washer or bearing in place. Fig. 13 is a top view of the flattened or chamfered roller, making the vertical spaces between them in the middle of the wash-board.

My invention is an improved washing-machine; and consists in the novel construction, arrangement, and operation of the same, for the purpose of cleansing clothing materials without the wear, tear, and rubbing usually consequent to such operation by devices used for similar purposes.

The following are the peculiar features embraced in my device: Within a suds-box, consisting of side pieces and strip ends of wood, to which a curved bottom of suitable sheet metal is secured, is placed an elastic, flexible, and reversible wash-board, notched cleats for adjusting and holding said wash-board, a cylinder of wood and metal, with a smoothly fluted surface and journaled in blocks sliding vertically in the sides of said suds-box, and hoops of strap metal passed along and securing the outer edges of the aforesaid metal bottom, all of which, together with their purposes and results, is hereinafter more fully described, and illustrated by the accompanying drawings, in which the same letters designate identical parts of the device in the different figures, respectively.

The letter A represents the side pieces of the suds-box, made of wood of suitable size and thickness, with their lower edges curved semicircularly, as shown by the drawings. To each end of said curved edge of each side piece is fastened a cross piece or strip of wood, B, of suitable size and of the same thickness as said side pieces, one vertically and the other inclined outwardly, and both having their top edges flush with those of the said sides, all as shown by the drawings. To the lower edges of said sides, and corresponding with their curves, is fastened the bottom C of the suds-box, consisting of a properly-sized sheet of galvanized iron, or other suitably equivalent metal for resisting the action of the suds, the end edges of which, at *a* in Figs. 2 and 3 of the drawings, are bent and let into slits cut in the end pieces of the suds-box near and parallel to their lower edges, as indicated, and the whole sheet-piece still further secured in place by narrow straps *b* of metal screwed (over and through the said straps and bottom sheet) down tightly upon the aforesaid curved edges of the side pieces, the whole of the above, sides, ends, and bottom, thus forming the aforesaid suds-box. Within the said box is hung a wash-board, D, consisting of a series of smooth wooden cylinders of suitable size and length, each pierced with small holes near ends and middle, through each of which is passed a string of spring-wire, for the purpose of attaching said cylinders together and suspending them, as hereinafter described, within and between the sides and ends of said suds-box. A few of said cylinders in the middle portion of said wash-board are each flattened and chamfered on opposite sides, said chamfering extending from the middle of each roller nearly to its ends, as shown by Figs. 3 and 13, thus making vertical spaces between said cylinders, to allow the suds and any dirty sediment therein contained to pass freely through to the bottom of the suds-box.

The aforesaid cylinders may be made square instead of round, in which case the holes through which the spring-wires pass are bored through cornerwise, as shown by Figs. 9 and 11. The strings of spring-wire which attach the cylinders together are each clinched at one end to the outermost cylinder E at one of the ends of the series, as shown by Fig. 5, and have each the other end flattened back into a head, under which is slid a forked or slotted metal plate, *c*, as shown by Figs. 6 and 10, the prongs of which, slipping underneath the head on each side of the wire, securely fasten the aforesaid parts of the wash-board together. Outside, again, of the cylinder, upon which the said forked plates rest, is another roller, F, fastened to the previous one by screws, as shown by Figs. 1 and 6. The said cylinders E and F have narrow metal ferrules on their ends, and in the axes of the same are short and stout metal pins, *d*, as shown by Figs. 7 and 8, by which the whole elastic, flexible, and reversible wash-board, constructed as aforesaid, is suspended.

The aforesaid wash-board is adjusted in place as follows: Upon the inner surfaces of the sides of the suds-box cleats G, as shown by Figs. 1 and 3, are fastened. Each of said cleats has cut into its upper edge any desired number of slots or notches, *e*, into which the aforesaid pins *d* are placed, thereby easily adjusting the wash-board in any desired position between the bottom of the suds-box and the cylinder H, hereinafter described, for the purpose of conforming the space required between said wash-board and cylinder to the quantity of clothing materials to be cleansed. The cylinder H is also elevated or lowered, as hereinafter shown, for the same purpose. The wash-board can also be readily turned end for end, if desired. Also, within the suds-box is adjusted a cylinder of wood, or its suitable equivalent, with smooth flutings longitudinally formed upon its periphery, as shown by Fig. 3, and hung upon an axillary shaft, or upon axle-pins journaled as hereinafter described. The letter *g* represents a winch, by which said cylinder is made to revolve. The letter *f*, as shown by Fig. 1, represents certain slots cut down the sides of the suds-box, of a width corresponding to the thickness of the said sides, commencing on the top edge of each and extending down to the central point, around which the lower curved edge is described, for purposes hereinafter stated. Upon the upper and outer surface of each of the two sides of the suds-box is fastened a frame, I, consisting of a top and two side pieces of wood, of any suitable size and thickness, as shown by Figs. 2 and 12. Within this frame is adjusted a compound sliding block, K *k*, made of wood in two parts, fastened together, as more fully shown by Fig. 12. The lower part, K, of said block is just the thickness of the side pieces of the frame, and of sufficient height and width to allow it to slide easily up and down between said side pieces, when desired. The upper part, *k*, is an upright stud of wood, made square or just the thickness of the sides of the suds-box, and fitting with a water-tight joint in the aforesaid slots cut into them. It is fastened near its outer and lower end to the upper and inner surface of the lower part, K, so as to project beyond said surface, as shown by Fig. 12. By this arrangement of the two parts K *k* of the said compound block, the upper part is made to slide in its water-tight slot, while the lower part moves freely up or down upon the outer surface of the sides of the suds-box, over said slot and between the guide-pieces of the frame I, both parts being of just sufficiently corresponding length or height to bring the top of the part *k* flush with the top edge of the suds-box, when the top of part K is touching the lower edge of the cross-piece of the aforesaid frame; and when the bottom of part K is slid down flush with the bottom of said frame the foot of the part *k* will be at the bottom of its slot. Through each foot of the part *k* and the lower part, K, a hole, *m*, is bored, the upper curve of which is embraced by the said foot of part *k*, of sufficient size to receive the ends of the axle or the journal-pins of the aforesaid cylinder H. Transversely through each of the side pieces of the frame I a suitable hole, and also through the lower block, K, above and below the aforesaid hole *m*, two or more corresponding holes are bored, to introduce the pin *o*, for the purpose of keeping the sliding block K *k*, and consequently the cylinder H, at any desired elevation, all of which is to produce the same result as that heretofore stated with reference to the wash-board D. The letter *n* represents an annular washer of sheet metal, with a hole through its center of the same diameter as the axle-journals of the cylinder H. This is slipped and pressed tightly into a corresponding annular depression of a depth the same as the thickness of the washer made in the block K, and around said hole *m*, but of larger diameter, so that the outer surface of the washer may be flush with the sliding surface of said block. These annular disks answer not only the purpose of washers, but also of water-tight bearings, in which the journals revolve, thereby lessening the friction, and preventing any rapid wear in the journal-holes *m*. The letter L represents the four legs and their cross-pieces, upon which the washing-machine stands. The letter *p* represents a plug thrust into a hole in the bottom of the suds-box, which, being withdrawn from said hole, allows the suds to escape; therefore

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The wash-board D, consisting of a series of rods strung upon spring-wire, as shown, and having the pronged plates *c* and the end cylinders E and F, provided with axial pins *d*, as and for the purposes specified.

2. In combination with the cleats G, provided with the notches *e*, the wash-board D,

provided with the axial pins *d*, as and for the purposes specified.

3. The sliding block K *k*, with its journal-holes *m* and annular bearings *n*, substantially as and for the purposes specified.

4. In combination with the sliding blocks K *k*, the guide-frames I and the fluted cylinder H, substantially as and for the purposes specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES C. SNOW.

Witnesses:

ELBRIDGE J. BROADDUS,

JOHN A. NOLAND.