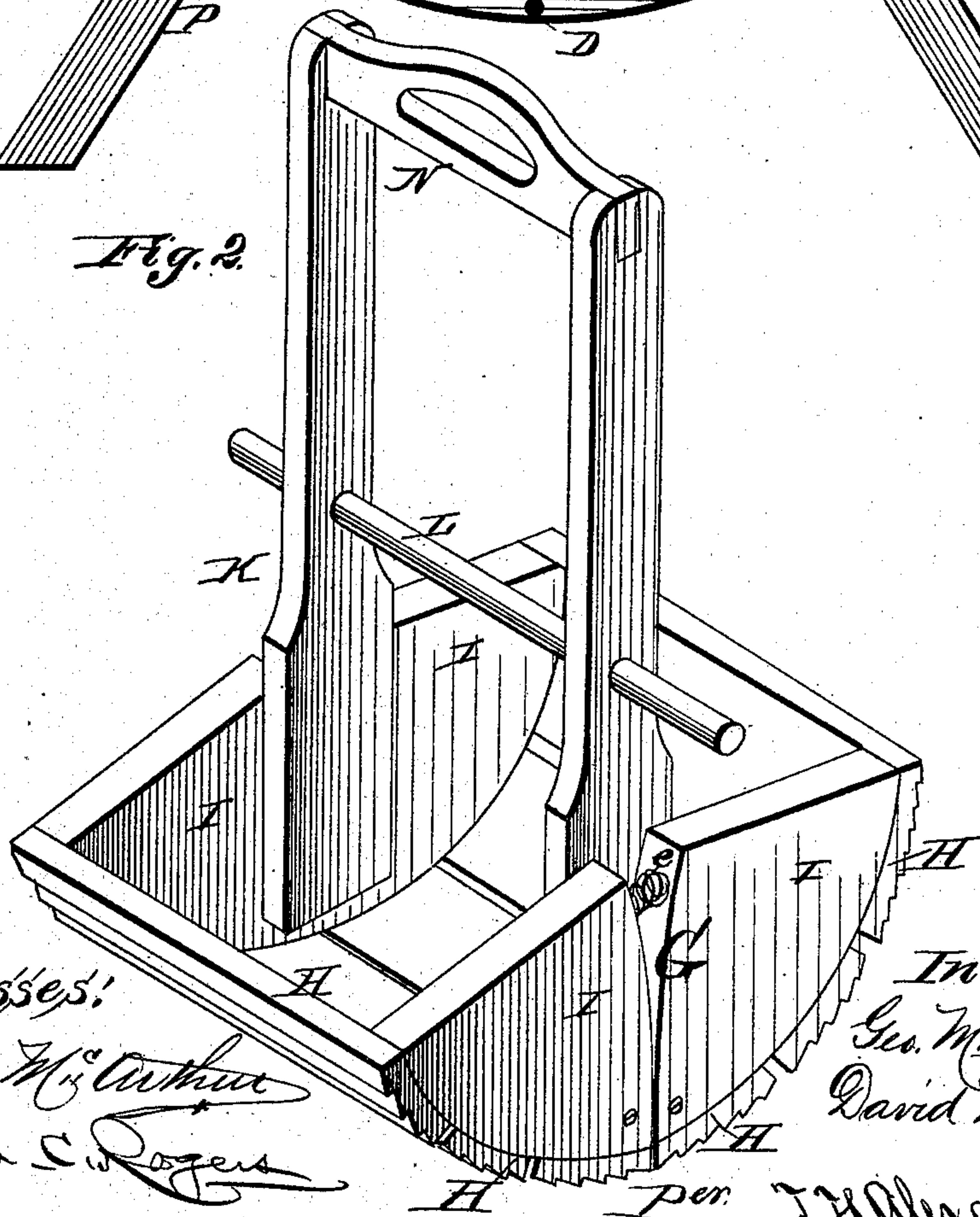
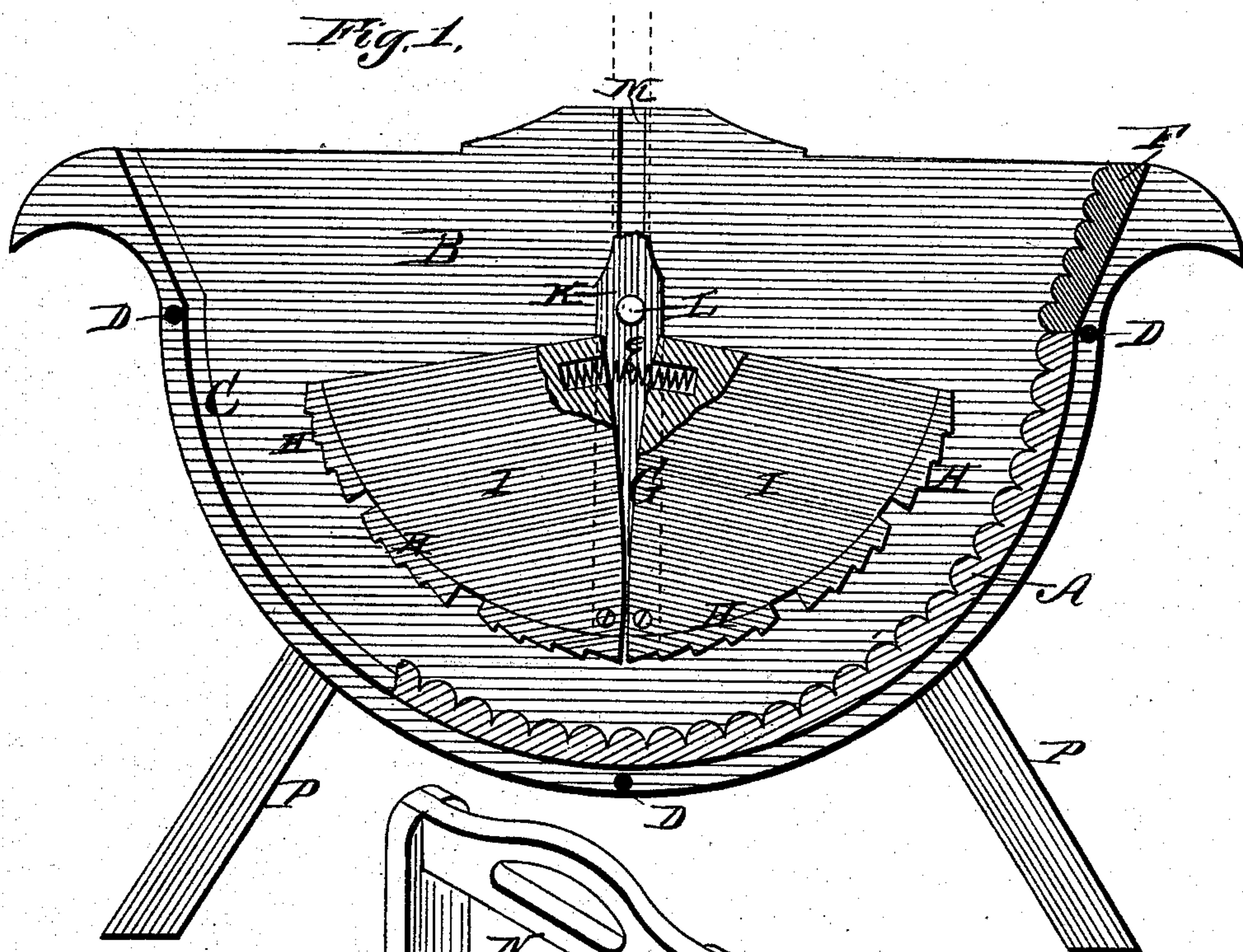


(No Model.)

G. M. STRAIN & D. MILLER.  
Washing Machine.

**No. 238,179.**

**Patented Feb. 22, 1881.**



Witnesses:

A. C. McArthur

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Geo. W. Strain, Ed

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Per. T. H. Alexander

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# UNITED STATES PATENT OFFICE.

GEORGE M. STRAIN AND DAVID MILLER, OF HARRODSBURG, INDIANA,  
ASSIGNORS TO SAID GEORGE M. STRAIN AND ALEX. STRAIN, OF  
SAME PLACE.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 238,179, dated February 22, 1881.

Application filed August 20, 1880. (No model.)

*To all whom it may concern:*

Be it known that we, GEO. M. STRAIN and DAVID MILLER, of Harrodsburg, in the State of Indiana, have invented certain new and  
5 useful Improvements in Washing-Machines; and we 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  
10 thereon, which form part of this specification.

This invention relates to certain improvements in washing-machines; and it has for its object to produce an apparatus in which the rubbing-surface will be practically indestructible, and to provide a rubber that will automatically adjust itself to the rubbing-surface as the thickness or quantity of clothes to be operated upon may be varied. These objects we attain by the apparatus illustrated in the  
20 accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section of our invention. Fig. 2 is a perspective view of the rubber.

The letter A indicates the bottom of our improved machine, the inner face of which forms the rubbing-surface against which the clothes or other articles are worked. The said bottom is constructed of earthenware properly burned, and is in the form, or approximates the  
30 form, of a segment of a circle, the inner or rubbing surface being corrugated or roughened in order to form a proper bearing for the articles to be operated upon.

The letter B indicates the sides of the machine, which are semicircular in shape, and which are provided with segmental grooves C, into which the opposite edges of the segmental chamber sit, the sides being clamped together by means of the transverse rods or  
40 stays D, which are screw-threaded at their ends and provided with clamping-nuts. The grooves C extend some distance beyond the ends of the segmental bottom A for the reception of the wash-boards F, which are to be employed for hand-washing when such is found  
45 necessary or desirable. These boards are constructed of stone or earthenware, with corrugated or roughened rubbing-surfaces, and are backed or re-enforced with wood or other suitable material of sufficient strength to form a  
50 firm support for the said board.

The letter G indicates the rubber of my im-

proved apparatus. This is constructed of a series of segmental sections, H, corrugated or roughened on their rubbing-faces and attached  
55 to the heads I. These heads are pivoted to a lever, K, at or near their inner lower end, as shown at d, and are beveled or somewhat rounded on their contiguous faces upward from their pivot-points. This lever is provided with  
60 a transverse fulcrum-shaft, L, the ends or journals of which are adapted to set in grooved bearings M in the sides of the machine in such manner that the entire rubber may be secured in place, or readily removed, for the purposes  
65 of cleaning or repairs, when required. Between the respective heads I, at each side of the lever, are located spiral or other equivalent springs e e, which are adapted to yield or give  
70 when pressure is brought upon the rubbing-sections during the operation of washing, in order to permit the rubber to adjust or accommodate itself to the clothes or material to be operated upon, and give a proper pressure upon the same irrespective of the thick-  
75 ness, bulk, or quantity thereof. The upper end of the lever is provided with a handle, N, by which it may be manipulated.

The machine is provided with legs P, which are secured in any convenient manner to the  
80 opposite sides, as indicated in the drawings.

The operation of my improved apparatus will be apparent from the above description without further explanation.

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

The combination, with the concave corrugated rubbing-surface of a washing-machine, of the lever K and the heads I I, said heads  
90 being beveled or rounded on their contiguous faces and pivoted at their lower inner ends to lever K, and having a spiral spring interposed between them at their upper ends, all constructed and arranged to operate substantially as and for the purpose described. 95

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

GEORGE M. STRAIN.  
DAVID MILLER.

Witnesses:

J. E. EVANS,  
EDWARD R. MILLER.