

P. LIEBER.
Washing-Machine.

No. 169,111.

Patented Oct. 26, 1875.

Fig. 1.

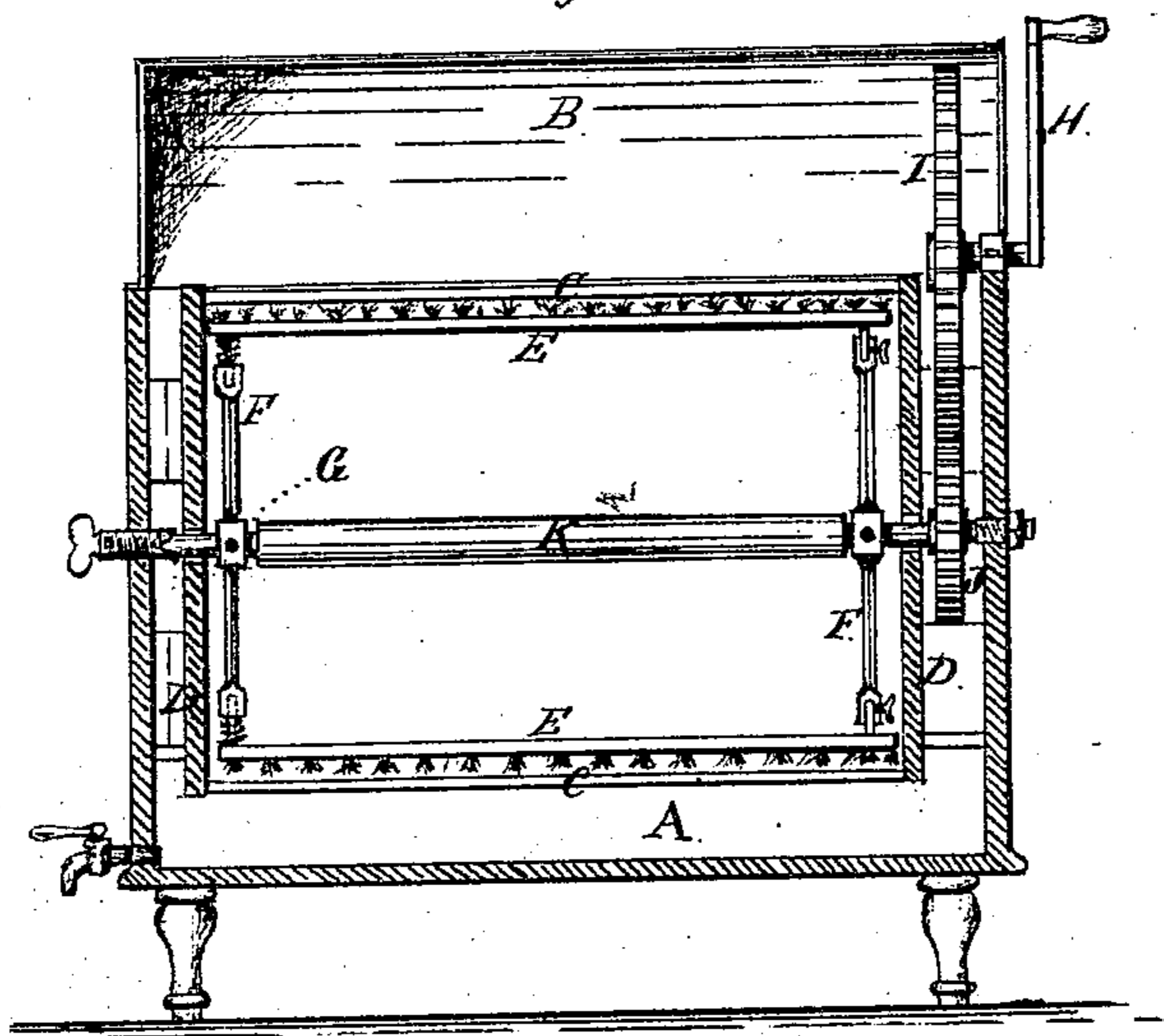
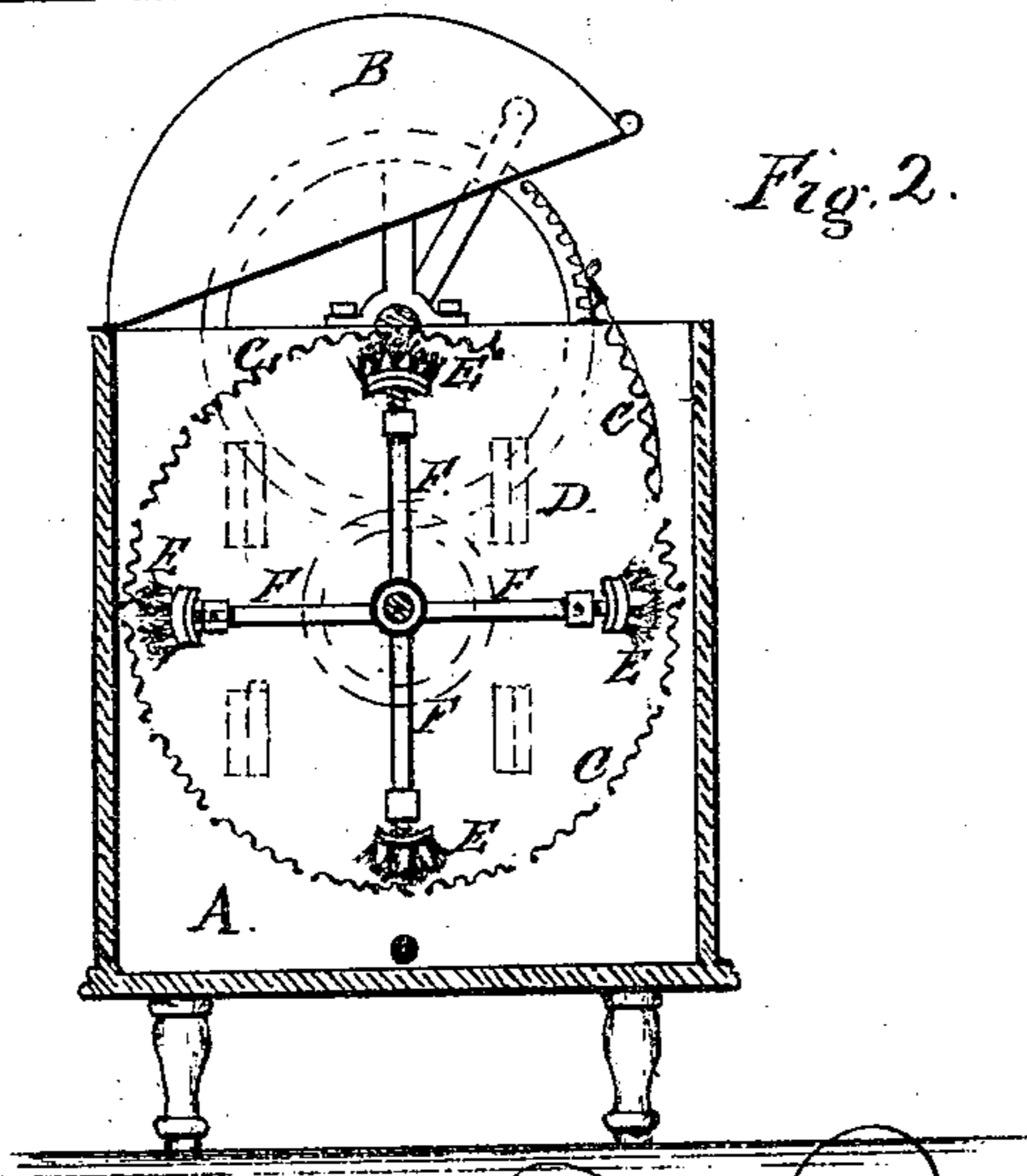


Fig. 2.



Witnesses

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PETER LIEBER, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **169,111**, dated October 26, 1875; application filed September 9, 1875.

To all whom it may concern:

Be it known that I, PETER LIEBER, of Indianapolis, in the county of Marion and State of Indiana, have invented certain Improvements in Washing-Machines, of which the following is a specification:

This invention consists in the arrangement of rotating brushes attached to adjustable or yielding arms fixed on a shaft, and working within a corrugated cylindrical shell, in which the clothes are placed to be operated upon by the brushes, the object being to produce a more effective and speedy rubbing or scrubbing of the clothes, and at the same time to avoid the wear and abrasion incident to machines in ordinary use.

Figure 1 is a vertical longitudinal section of a washing-machine embodying my invention, taken just at one side of the center shaft. Fig. 2 is a vertical transverse section of the machine.

A is the exterior case of the machine, consisting of a water-tight wooden box, and furnished with a lid or hinged shutter, B. All the other parts are arranged within this box.

The washing apparatus consists in a stationary cylindrical shell, formed of narrow corrugated sheet-metal sections C, that are fixed in wooden heads D, in such manner as to leave space between the sections for the free ingress of the water or suds, which is placed in the case A, and the adjustable brushes E attached to adjustable or yielding arms F, radiating from the center shaft G. A rotary motion, either continuous or reciprocating, is communicated to brushes E by means of crank H and gear-wheels I and J, the latter being fixed on shaft G, the whole being constructed and arranged so as to be readily removable from the case A, for the purpose of cleaning the several parts.

The brushes E may be attached to the arms F by means of spiral springs, so as to render them yielding, and the better to adapt them to varying quantities of clothing; or they may

be made adjustable by means of set-screws or other convenient means, for the same purpose.

It will be observed that the brushes E are made on a curve of much less radius than the corrugated shell C, so as to provide greater space between the edges of the brushes and the shell than at the center. By this arrangement the brushes run over the clothes, and are not liable to carry them around with them.

The sections of corrugated sheet metal of which the shell C is formed are made narrow—say from three to five inches in width—and are fixed into the heads D in such manner as to leave space between them for free ingress of the water or suds contained in box A. The action of the rotating brushes is to draw the suds through these openings into the shell C.

One or more of the sections of corrugated sheet metal forming the shell C are to be hinged, or otherwise arranged so as to be movable, for the purpose of introducing or removing the clothing.

In order to prevent the clothes from wrapping around the shaft G, and thus be carried around by it, a loose tube, K, occupying all the space between the arms F, is arranged on the shaft, in such manner that it will not rotate with it, and thereby allow the clothes to drop freely down upon the bottom of the corrugated shell, so as to be acted upon by the brushes as they are rotated.

I claim as my invention—

In combination with the stationary shell C, formed of corrugated sections, as set forth, the rotating brushes E, fixed on yielding or adjustable arms F, and the loose tube or covering K on shaft G, all arranged and operating substantially as set forth.

PETER LIEBER.

Witnesses:

O. F. MAYHEW,
JACOB W. LOEPER.