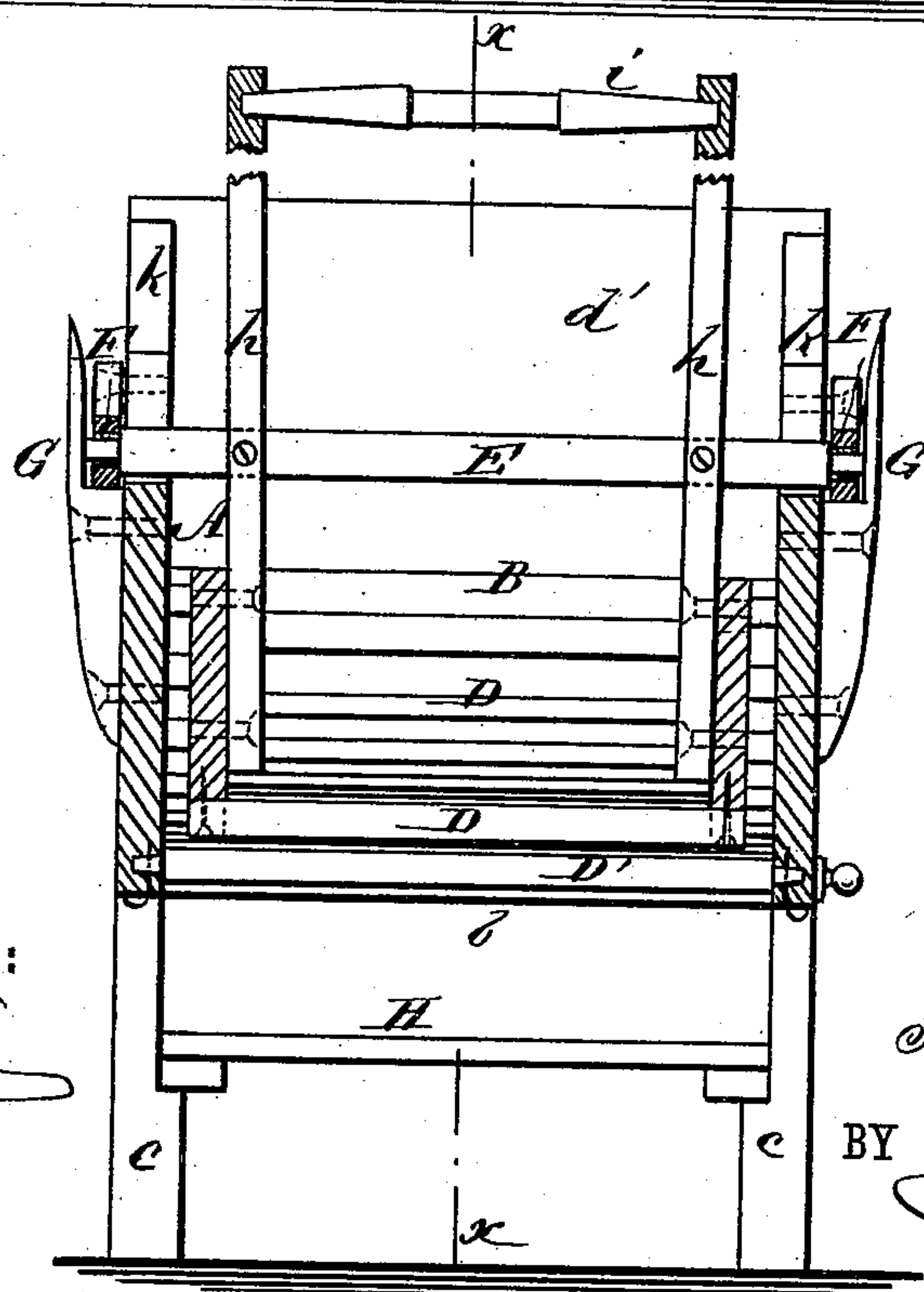
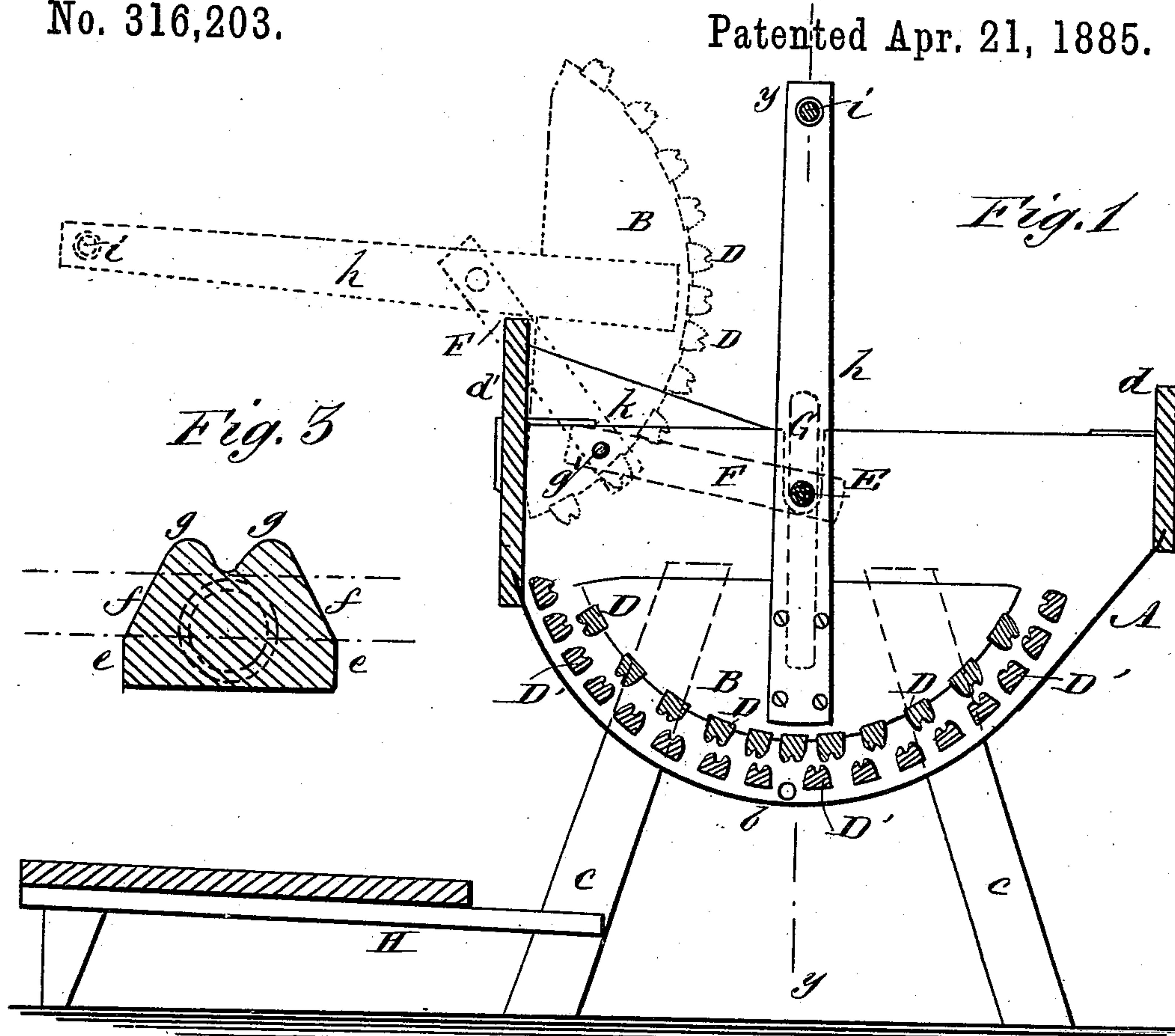


(No Model.)

S. L. WAGENER.
WASHING MACHINE.

No. 316,203.

Patented Apr. 21, 1885.



WITNESSES:

C. Neveu
C. Sedgwick

INVENTOR:

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UNITED STATES PATENT OFFICE.

SAMUEL L. WAGENER, OF NEPEAU, COUNTY OF CARLTON, ONTARIO,
CANADA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 316,203, dated April 21, 1885.

Application filed April 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL L. WAGENER, residing in the township of Nepeau, county of Carlton, Province of Ontario, and Dominion of
5 Canada, have invented certain new and useful Improvements in Washing-Machines, of which the following is a full, clear, and exact description.

This invention relates to that description of
10 washing-machines in which a convex-shaped vibrating rubber, composed of bars on its acting surface, is arranged to work within a fixed concave, also provided with bars for rubbing and working the clothes; and it consists in a
15 novel construction and arrangement of the bars both on the vibrating rubber and in the concave, whereby the clothes are more perfectly washed and prevented from passing between the bars, as hereinafter described, and
20 pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

25 Figure 1 represents a vertical longitudinal section on the line *x x* in Fig. 2 of a washing-machine embodying my invention. Fig. 2 is a transverse vertical section of the same on the line *y y* in Fig. 1, and Fig. 3 a transverse
30 section upon a larger scale of one of the bars used in the vibratory rubber and suds-box or concave.

The machine is made for the most part of pine, or other wood not liable to spring or be
35 injuriously affected by soap or lye. The bottom *b* of the suds-box or concave *A* is of zinc or other metal not liable to rust; but its sides, on which are secured the legs *c c* and front and back end boards, *d d'*, are of wood.

40 The vibratory rubber *B* has its opposite heads or sides, which may be of segmental shape, so as to present a curved outer margin in conformity with the concave, united by bars *D*. These bars, as well as the bars *D'* in the
45 suds-box or concave, which, combined, form two curved series of bars—that is, convex and concave, respectively—are of peculiar construction. Thus said bars *D D'*, which are arranged and suitably secured to extend be-
50 tween the sides of the suds-box and heads of the vibratory rubber, have their bodies (see Fig. 3) constructed to present at their base

portions straight or parallel sides *e e*, and reversely inclined sides *f f* beyond said bases converging toward one another in an outward
55 direction, and have their outer faces made corrugated or with duplicate parallel rounded portions *g g* throughout their entire length. Furthermore, the convex series of parallel bars *D* on the vibratory rubber *B* are arranged
60 so that said bars are close together at the center of the curved rubber, and gradually increase in distance apart toward either end thereof, while the concave series of bars *D'* in
65 the suds-box are just the reverse—that is, farthest apart in the center and gradually closer toward either end. This reverse spacing of the two series of bars causes them to strike the clothes in different places continuously or
70 successively, thereby producing more perfect and thorough washing.

E is the rock-shaft of the vibratory rubber *B*. This shaft, while it enters down within the sides of the suds-box, does not have its bearing therein, but in side arms *F F*, pivoted
75 at their ends, as at *g*, to the sides of the suds-box, and working within ear-pieces *G G*, secured to the exterior of the sides of the suds-box, the bottoms of said ear-pieces on their inner surfaces serving for the pivoted arms
80 *F F* to rest upon when the rubber *B* occupies its lowermost position. This support of the rock-shaft *E* and guidance of the pivoted arms *F F* keeps the shaft clear of the sides of the suds-box, and prevents racking of the ma-
85 chine.

The vibratory rubber *B* is rocked by means of side arms *h h* attached to it, and carrying on their outer ends a freely-turning cross-
90 handle, *i*. When the rubber *B* is tilted out of the machine to get the clothes in or out, as shown by dotted lines in Fig. 1, the side arms *h h* occupy an upwardly-inclined position from out of the box to provide for any water that may be lifted running back, the end piece,
95 *d'*, of the box on which said arms *h h* then rest being at a suitable elevation for the purpose. Both end pieces *d d'* are suitably shaped to prevent water from being worked or thrown out of the box, and on the tops of the sides of
100 the box at its back end are pieces *k k* for the same purpose.

H is a removable sliding step connecting with the back end of the machine, for the op-

erator to stand on when working the machine.

The entire machine is simple, compact, durable, and light, and does its work effectually without much wear of the clothes or exposing
5 them to the effects of rust; also requires but very little labor to operate it.

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

1. In washing-machines having vibratory
10 convex rubbers arranged to work within fixed concaves, the vibratory rubber B, having its clothes squeezing and rubbing bars D, spaced at increasing distances apart from the center of its convex portion toward the ends thereof,
15 substantially as specified.

2. The combination, with the suds-box, of the fixed concave series of bars D', spaced at

decreasing distances apart from the center of the series toward the ends thereof, essentially
as shown and described. 20

3. The combination of the suds-box provided with the convex series of bars D on the vibratory rubber, spaced at increasing distances apart from the center of the series toward the ends thereof, and the rubber pro- 25
vided with the fixed concave series of bars D', having a reverse spacing that is decreasing in distances apart from the center of said series toward the ends thereof, substantially as and for the purpose herein set forth.

SAMUEL L. WAGENER.

Witnesses:

FRED W. THISTLETHWAITE,
D. B. MAC TAVISH.