S. HARBIAN.

ROTARY HAND OPERATED BRUSH.

APPLICATION FILED JULY 29, 1914.

1,120,812. Patented Dec. 15, 1914.

FIG. 1.

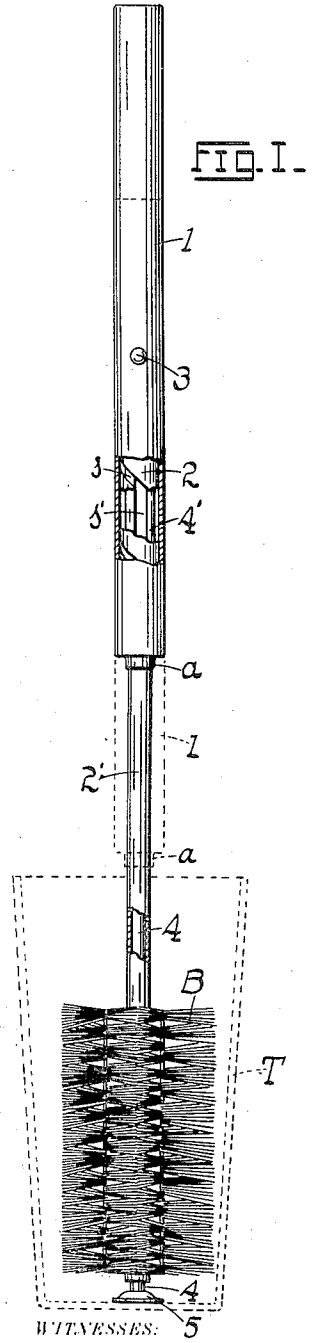
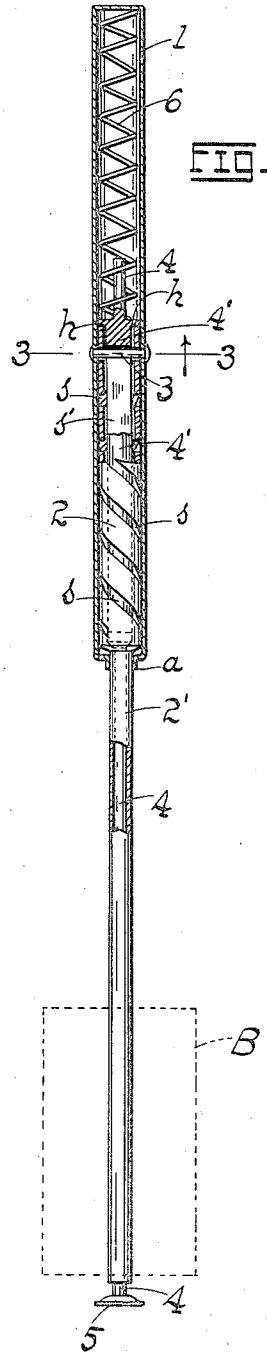


FIG. 2.



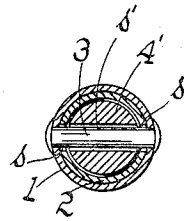


FIG. 3.

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ROTARY HAND-OPERATED BRUSH.

1,120,812. Specification of Letters Patent. **Patented Dec. 15, 1914.**

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To all whom it may concern:

Be it known that I, SARKIS HARBIAN, a subject of the Sultan of Turkey, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Rotary Hand-Operated Brushes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in rotary hand-operated brushes; and it consists in the novel features of construction more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is an elevation of the washer, parts being broken away, showing its application to a tumbler; Fig. 2 is a longitudinal middle section, parts being left in elevation; and Fig. 3 is an enlarged cross-section on the line 3—3 of Fig. 2.

The present invention is directed to rotary hand-operated brushes, and has for its object to provide a simple household article which can stand considerable handling and abuse without the danger of getting out of order.

A further object is to provide a washer which is responsive to a slight pressure of the hand of the operator; one which is positive in action, light, and cheap to construct; and one possessing further advantages better apparent from a detailed description of the invention, which is as follows:—

Referring to the drawings, 1 represents a tubular handle closed at one end (the outer end) in which is free to rotate a shell or sleeve 2 provided with a pair of peripheral spiral slots *s*, *s*, said slots being traversable by a cross pin 3 disposed diametrically across the handle 1 and secured thereto. The sleeve 2 is provided with an extension 2′ freely rotatable in the hollow bearing or boss *a* formed at the inner end of the handle 1, the members 2, 2′, rotating as a unit in the operation of the tool. Passing loosely through the extension 2′ is a spindle 4 whose outer end is provided with a disk or foot-piece 5 which is placed against the bottom of the tumbler T (or bottle) to be washed. The spindle 4 is provided with an enlargement 4′ within the sleeve 2, said enlargement being provided with a longitudinal slot *s′* traversed by the pin 3. The portion 4′ fits loosely in the sleeve 2, the inner end of the latter being shouldered against an annular shoulder *h* formed on the member 4′ beyond the inner end of the slot *s′*. Between the closed outer end of the handle 1 and the adjacent end of the enlarged portion 4′ of the spindle 4 is interposed a compression spring 6, a portion of the spring being coiled about the inner end of the spindle 4 (Fig. 2). The outer terminal of the extension 2′ carries a brush B. When the spring 6 is fully expanded, the outer end of the sleeve 2 is shouldered against the handle 1 around the bearing *a* (Fig. 2) the bearing being pushed away from the end of the sleeve with any compression of the spring (see dotted position Fig. 1).

The operation will be clear from a reference to Figs. 1 and 2. To clean a tumbler T, the operator places the foot-piece 5 against the bottom of the tumbler and pushes down on the handle 1, in which movement the spring 6 is compressed. With the pushing down of the handle as described, the pin 3 carried thereby will traverse the spiral slots *s*, *s*, of the sleeve 2, imparting rotation not only to the sleeve but to its extension 2′ which carries the brush B. The extension 2′ with its brush thus rotates in a given direction about the spindle 4 as an axis, and the inside of the tumbler will be cleaned by the brush. Upon releasing the handle, the spring 6 (compressed in the previous stroke of the handle) will expand, causing the handle to move in the opposite direction. The pin 3 will now traverse the slots *s*, *s*, in the opposite direction, thus imparting rotation to the sleeve 2 and its brush-carrying extension 2′ in the reverse direction. In this way, by alternately pushing in and releasing the handle 1 a rotary reciprocation is imparted to the members 2, 2′, and to the brush B, and the tumbler (or bottle) is washed. During the longitudinal reciprocations or strokes of the handle 1, the pin 3 freely traverses the slot *s′* of the enlarged portion 4′ of the spindle, the latter being of course stationary relatively to the rotating sleeve 2, 2′, by which the same is enveloped. In its rotary reciprocations the inner end of the sleeve 2 plays over the annular shoulder or bearing *h* of the spindle enlargement 4′. The inner end of the member 4′ forms an abutment for one end of the spring 6, as clearly obvious from the drawings.

The tool may be applied to a variety of uses. In lieu of the brush B, a skeleton frame (not shown) might be substituted,

and the device be used as an egg-beater or for other kindred purposes, as clearly obvious to those skilled in the art.

Having described my invention, what I claim is:—

1. In a rotary hand-operated brush, a hollow handle, a compression spring therein, a stationary member in the handle forming an abutment for one end of the spring, a rotatable sleeve in the handle enveloping the member aforesaid, the latter extending outside the handle, an extension for the sleeve enveloping the outer extension of the abutment member, a brush on the sleeve extension, the walls of the sleeve being provided with spiral slots, a cross-pin on the handle traversing said slots, and means on the abutment member for permitting reciprocation of the cross-pin.

2. A rotary hand-operated brush comprising a tubular handle closed at one end, an inner rotatable sleeve mounted in the handle and provided with a hollow extension projecting outside the open end of the handle, the portion of the sleeve within the handle being provided with a pair of peripheral spiral slots, and being normally shouldered against the end of the handle, an inner spindle traversing the sleeve extension and the handle, and provided with a longitudinally slotted enlargement within the limits of the sleeve, a bearing on said enlargement for supporting the inner end of the sleeve, a spring interposed between the inner terminal of the spindle enlargement and the closed end of the handle, a cross-pin on the handle traversing the slots of the sleeve and the slot of the spindle enlargement, a foot piece on the spindle outside the sleeve extension, and a brush on the sleeve extension, the parts operating substantially as, and for the purpose set forth.

3. In a rotary hand-operated brush, a hollow handle, an inner stationary spindle, an intermediate rotatable sleeve, an extension for the sleeve, a brush on the extension, a spring in the handle interposed between one end thereof and the adjacent end of the spindle, the sleeve being provided with spiral peripheral slots, and the spindle with a longitudinal slot, and a member on the handle traversing the several slots, for the purpose set forth.

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