July 7, 1931. R. W. EMERSON 1,813,569

WASHING AND SCRUBBING BRUSH

Filed April 17, 1928

Fig. 1.

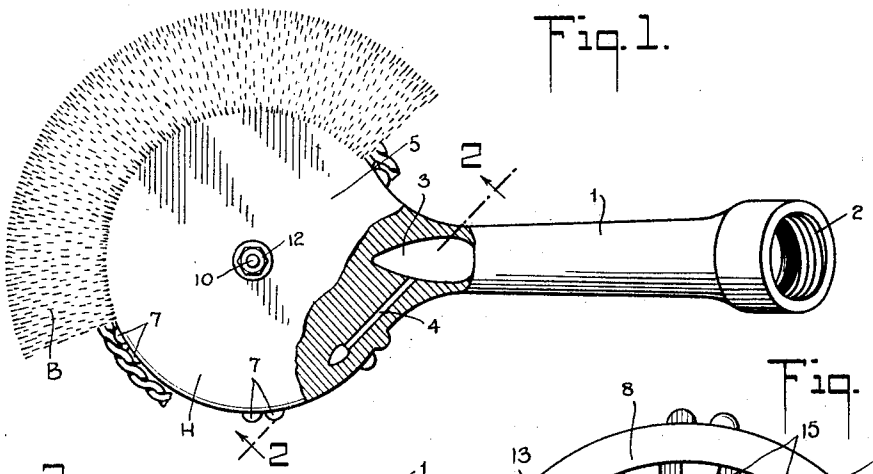


Fig. 2.

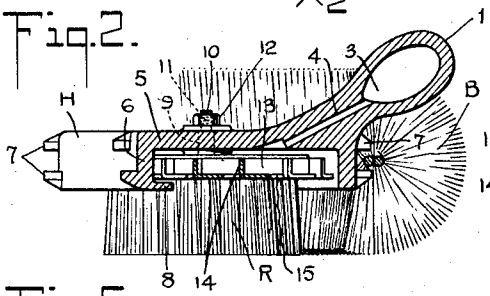


Fig. 3.

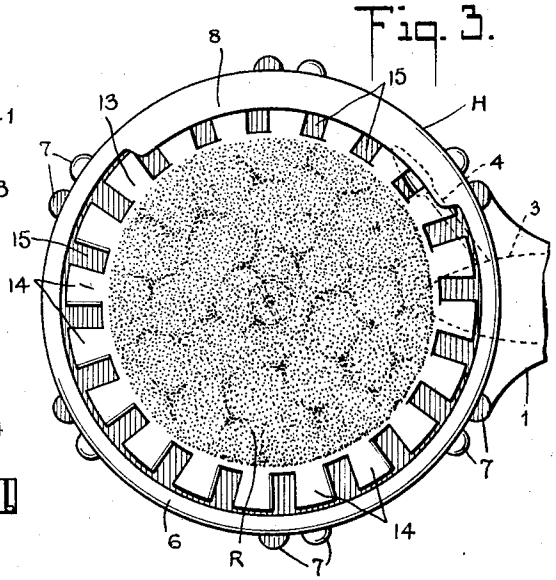


Fig. 5.

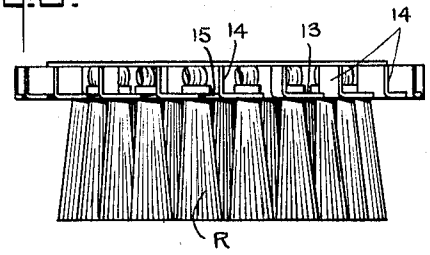
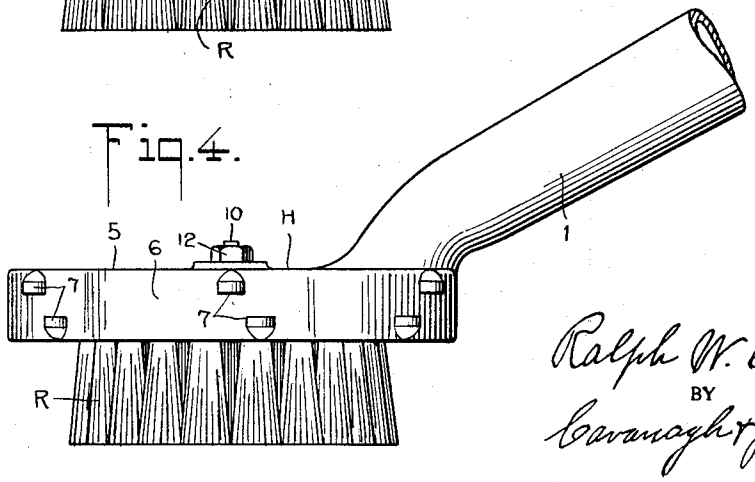


Fig. 4.



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BY

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Patented July 7, 1931 1,813,569

UNITED STATES PATENT OFFICE

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WASHING AND SCRUBBING BRUSH

Application filed April 17, 1928. Serial No. 270,598.

The present invention relates to washing and scrubbing brushes adapted particularly for use in connection with the cleaning of automobiles, and is in the nature of an improvement upon the brushes of the type forming the subject-matter of United States Letters Patent to Jesse R. Masser, dated April 19, 1921, No. 1,375,102; or, in other words, relates to that class of brushes which embrace a stationary border brush surrounding a rotary brush, with provision for directing the washing fluid, such as water, through a tubular handle or shank to the two brushes.

In carrying out my invention it is my purpose to improve and simplify the construction of this type of brush by the provision of means for more efficiently directing the water to the stationary and the rotary brushes, and at the same time to eliminate water waste and, also the liability of water dripping, spilling or splashing upon the operator during the washing operation, especially when the brush is held in a vertical or elevated position.

It is also my purpose to improve the mechanical construction of the brush by forming the chambered brush-head with integral water directing or deflecting means, so that the head and the deflecting means may be made in a single casting or piece, thereby eliminating the expense incident to manufacturing and attaching separate parts.

Another object of the invention is to form or cast the brush-head with a continuous, unbroken peripheral side wall or flange which is devoid of holes or openings, so that the leakage or dripping of water through the wall is avoided.

Another object of the invention is to simplify and improve the arrangement of the supply passages and the co-acting parts for supplying the water from the tubular handle or shank to the brushes.

It is also my purpose to provide a brush which will embody the desired features of simplicity, effectiveness and durability, and which may be manufactured and marketed at a relatively low cost.

With the above recited objects and others of a similar nature in view, my invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claims.

In the accompanying drawings

Fig. 1 is a detail top plan view of a brush embodying my invention with certain parts broken away and portions of the stationary or border brush omitted;

Fig. 2 is a vertical sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a bottom plan view showing the rotary brush in position in the chambered brush-head, but with the border brush omitted;

Fig. 4 is a view in side elevation showing the brush-head and the rotary brush, but again omitting the border brush;

Fig. 5 is a view in side elevation of the rotary brush.

Referring now to the accompanying drawings in detail the numeral 1 indicates a tubular handle or shank which may be connected at its outer end 2 to a hose or other suitable source of water supply. This tubular handle or shank is cast integral with and extends at an angle to the head H of the brush body. The lower end of the tubular handle is closed as at 3, but the passage or water channel 4 leads from the shank to and through the top of the head H so that the water under pressure may pass from the tubular handle through the head to the brush bristles, as hereinafter described.

As will be seen by reference to the drawings, the head H comprises a circular plate-like casting or disk 5 formed with a depending peripheral or side wall 6, thus forming a chamber in the head. This latter is formed with a series of pairs of spaced lugs 7 cast integral therewith and adapted to receive between the same and to hold a wire ring or band or other suitable means for attaching and securing the stationary or border brush B to such outer peripheral wall, as clearly shown in Fig. 2. Formed integral with the bottom edge of the peripheral wall 6 of the head is an inwardly extending, lateral, segmental water deflecting or directing lip 8,

which is located adjacent to the discharge end of the water channel 4, so that any water issuing from the same and striking against the top surface of this flange will be directed inward toward the revolving brush, with a two-fold advantage,—first, that the requisite supply of water will be supplied to the brush, and second, that the angular stream of water issuing from the channel in the head will be prevented by this deflecting plate from spraying or streaming outward beyond the brush head.

Centrally of the top wall or plate of the head I provide a bore 9 for the passage of the bolt 10, the shank of which is threaded as at 11 for the reception of the retaining nut 12. This bolt revolvably holds the rotary brush R within the head and forms the spindle for such brush. The rotary brush R is in construction somewhat similar to that shown in the aforementioned patent to Masser No. 1,375,102, and embodies a rotor 13 having peripherally and radially arranged angular blades, vanes or buckets 14 with spaces or openings 15 therebetween, so that the water, after striking the buckets and performing the function of turning the rotor, may flow or pass down between the blades or buckets to the bristles of the border or stationary brush B.

From the above description taken in connection with the accompanying drawings, the construction and operation of my improved brush will be readily apparent.

The tubular handle or shank is connected with the water supply and the water, under pressure, passing down through the handle, flows through the channel 4 and impinges at an angle against the blades or buckets of the rotor, thus imparting a rotary motion to the latter, and the water passing down through the spaces or openings between the vanes or buckets, will moisten or wet the bristles of both the rotary brush and of the surrounding border or stationary brush. At the same time it will be noted that the deflecting lip 8, extending inward from the continuous peripheral wall of the head, is located adjacent the discharge end of the channel 4, so that the stream as it issues through the head will be directed or deflected inward of the brush head, and thereby not only properly wet the brush bristles, but the water will be prevented from spilling or spraying outward beyond the brush head. At the same time the continuous, unbroken nature of the peripheral wall will prevent leakage or draining or dripping of water upon the operator, particularly when the brush is held in an elevated position. Owing to the restricted character of the channel or duct 4 for supplying water from the tubular handle to the brushes, and its location with respect to such brushes, the possibility of an excess supply, with consequent flooding or dripping of the brush is avoided.

While I have herein shown and described my brush as particularly adapted for use in washing automobiles, it will of course be understood that it is not limited in its particular application to this particular purpose, as it may be employed for washing, cleaning or scrubbing in any connection wherein its use will be found advantageous and desirable.

While I have herein shown and described a preferred embodiment of my invention, it is not to be understood as limited to all the precise details set forth by way of illustration, as modification and variation may be made without departing from the spirit of the invention or exceeding the scope of the appended claims.

What I claim is:

1. A device of the class described comprising a tubular handle, a chambered brush-head connected thereto and comprising a top portion and a continuous peripheral side wall, there being a water supply channel leading from the tubular handle through the top wall of the head, a water deflecting member extending laterally inward from the peripheral wall of the head adjacent the discharge end of the channel, a border brush attached to the peripheral wall and surrounding the brush-head, and a rotary brush revolvably mounted within the chambered head.

2. A device of the class described comprising a tubular handle, a chambered brush-head comprising a flat circular top portion and a peripheral side wall, there being a water supply channel leading from the tubular handle through the top wall of the head, a water deflecting lip formed integral with and extending laterally inward from the peripheral wall of the head adjacent the discharge end of the channel, a border brush attached to the peripheral wall and surrounding the brush-head, and a rotary brush having peripherally and radially arranged angular blades revolvably mounted within the head and adapted to be impinged upon and rotated by water issuing from the delivery end of the supply channel.

Signed at East Orange, in the county of Essex and State of New Jersey this 7th day of April, A. D. 1928.

RALPH W. EMERSON.