May 2, 1950 M. M. BURNS 2,506,487

HYDRAULICALLY DRIVEN ROTARY FOUNTAIN BRUSH

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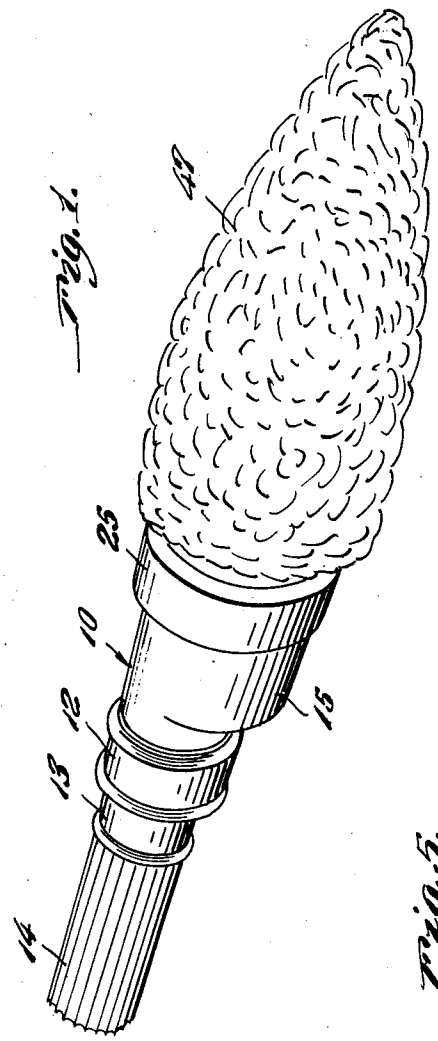


Fig. 1.

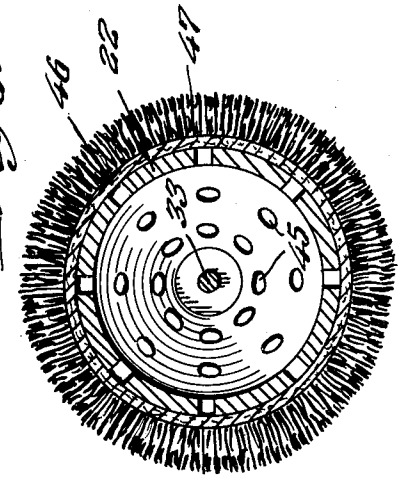


Fig. 6.

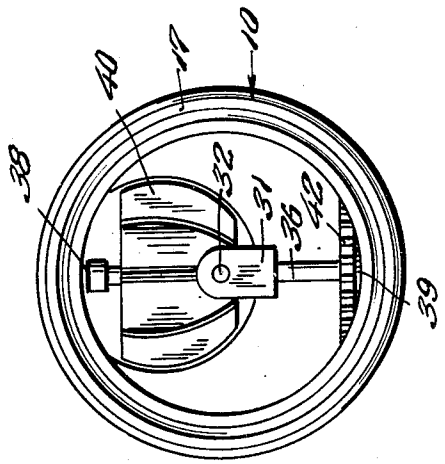


Fig. 5.

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HYDRAULICALLY DRIVEN ROTARY FOUNTAIN BRUSH

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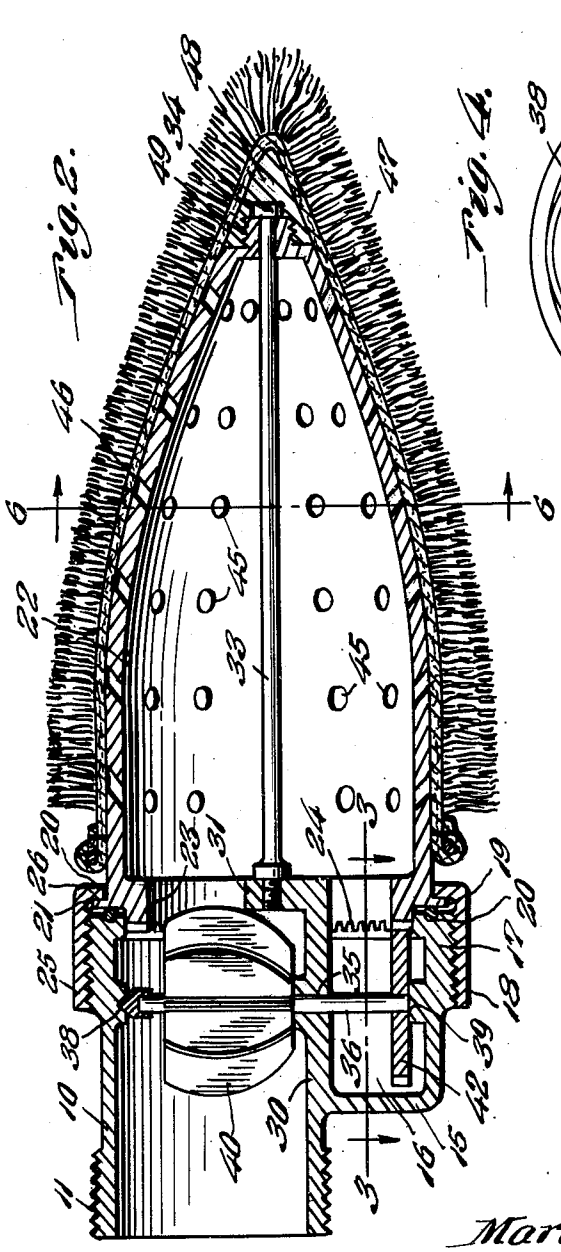


Fig. 2.

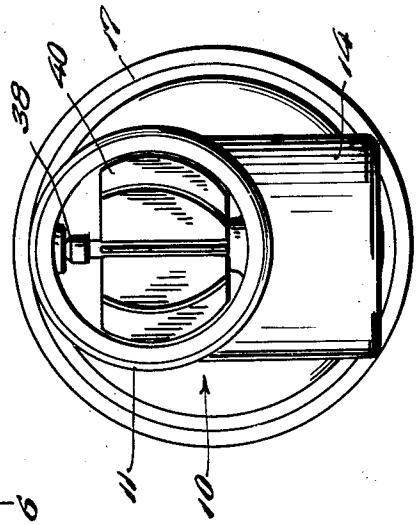


Fig. 4.

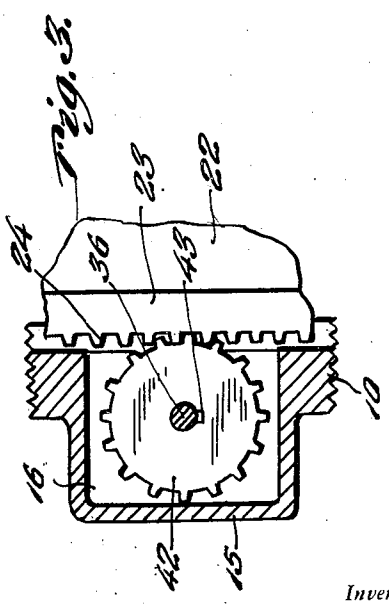


Fig. 3.

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UNITED STATES PATENT OFFICE

2,506,487

HYDRAULICALLY DRIVEN ROTARY FOUNTAIN BRUSH

Margaret M. Burns, Brooklyn, N. Y.

Application January 16, 1945, Serial No. 573,014

1 Claim. (Cl. 15—24)

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This invention relates to a rotary brush, and more particularly to such a brush adapted to be utilized with a source of water such as a hose associated therewith.

A primary object of this invention is the provision of an improved brush adapted for use in cleaning automobiles or the like, provided with means whereby the same may be attached to a hose, and adapted to be rotated by the force of the water from the hose, to effect a brushing or scrubbing action.

An additional object of the invention is the provision of such a device which may be readily and simply attached to any conventional hose and utilized expeditiously in any desired location.

Still another object is the provision of such a brush which will be sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture and assemble.

Other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings, wherein there is shown a preferred embodiment of the inventive concept.

In the drawings:

Figure 1 is a perspective view of one form of brush embodying the inventive concept.

Figure 2 is an enlarged sectional view along the center line of the brush.

Figure 3 is a sectional view taken substantially along the line 3—3 of Figure 2 and viewed in the direction indicated by the arrows.

Figure 4 is an end elevational view of the device, as viewed from the end adapted to be attached to the hose.

Figure 5 is an end elevational view of a portion of the device, the brush and brush head assembly being removed, and

Figure 6 is a sectional view taken substantially along the line 6—6 of Figure 2, as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawings.

In the drawings there is generally indicated at 10 a body or housing threaded, as at 11, and adapted to have positioned on the threads 11 a coupling member 12 to facilitate coupling the device to the end portion 13 of a conventional hose 14.

An offset portion 15 of the housing 10 forms a recess 16, and merges into a circular rim 17 threaded, as at 18. The outer surface of the

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rim 17 forms a raceway 19 for a plurality of ball or roller bearings 20. The other race of the bearing is comprised of a flange 21 positioned on a conical member, to be more fully described hereinafter, exteriorly of a rim 23, provided with teeth 24 to form a ring gear. A collar 25 having a depending flange 26 is adapted to be threaded on the threads 18 and hold the flange 21 in related assembly with the bearings 20.

Thus, it will be seen that the member 22 is freely rotatable with respect to the body 10, on the bearings 21, and is adapted to be rotated in a manner to be more fully pointed out hereinafter.

A tongue 30 extends across the upper portion of recess 16 and terminates in an upwardly turned lug 31, provided with a threaded bore for receiving the threaded end 32 of an axle 33 adapted to support the member 22 for rotation. The opposite end of the member 33 passes through a bore in the apex of the conical member 22 and is secured in position, as by a nut 34. A vertical aperture 35 in the tongue 30 serves as a bearing for a shaft 36 having its extremities suitably journaled in seats 38 and 39, respectively, in the interior of casing 10 and the bottom of recess 16. The shaft 36 carries a spinner 40 comprised of a plurality of vanes positioned in the main body portion 10 in the path of water flowing from the hose 14.

The lower end of shaft 36 has a gear 42 keyed thereto, as by a key 43, the gear 42 being adapted to mesh with the teeth 24 of the ring gear 23.

It will now be seen that passage of water from the hose 14 into the body portion 10 rotates the spinner 40, which, through gears 42 and 23 rotates the conical member 22 about axle 33.

The conical member 32 is provided with a plurality of apertures 45, through which the water from the hose is adapted to pass, and is surrounded by a porous backing member 46 having a plurality of bristles 47 set therein to form a brush. An end cap 48 having a threaded aperture therein engages the threaded extremity 49 of member 22, and serves to protect the nut 34, the arrangement being such that the member 22 and its associated brush may thus freely rotate with respect to the body 10.

From the foregoing it will now be seen that there is herein provided a brush adapted to be utilized in conjunction with a hose, having mechanism whereby the brush is revolved by the stream of water passing from the hose, and a constant supply of fluid supplied to the article or object to be washed, while at the same time a scrubbing action is effected by the rotation of the brush.

It will also be seen that there is herein provided an improved device accomplishing all the objects of this invention and others including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

A rotary brush comprising an elongated body having a straight fluid passage extending longitudinally therethrough, a gear casing in said body adjacent said passage, an anti-friction bearing on one end of said body, an axle secured to said one end of said body, a hollow, conical perforated member having its base journaled on said bearing and its apex on said axle, a cover of pliable porous material carrying bristles secured upon said member and overlying the perforations, an aperture in said base registering with said passage and said gear casing, said axle being eccentric with respect to said passage, a ring gear on the end of said base and extending into said casing, a shaft extending through and journaled in the walls of said passage and casing, a spinner on said shaft rotatable in said passage and a gear on said shaft rotatable in said casing and registering with said ring gear, retaining means for detachably securing said member to said body, comprising an annular flange on said conical member and a clamp secured to said body and embracing said flange.

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