July 24, 1923. 1,462,909

S. F. GULBA

ROTARY NOZZLE BRUSH

Filed Sept. 27, 1922

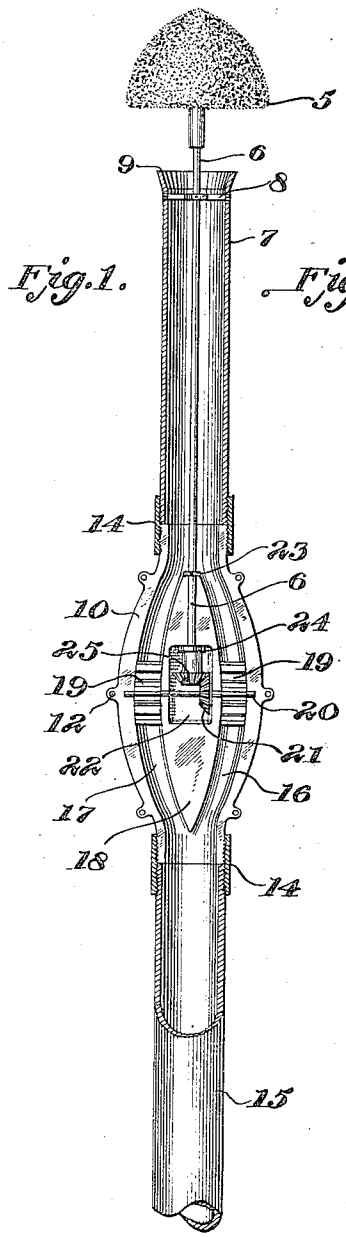


Fig. 1.

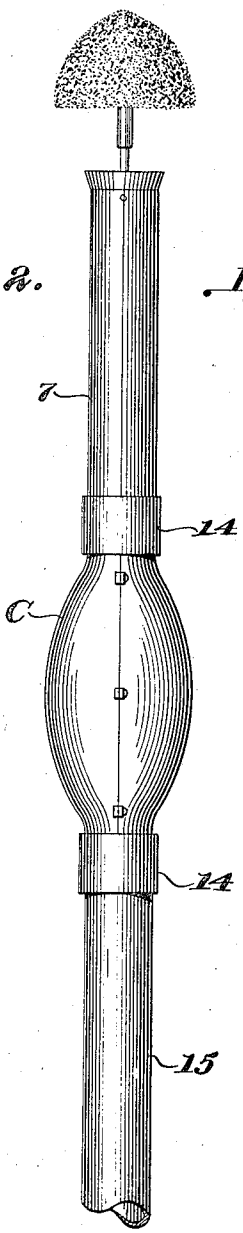


Fig. 2.

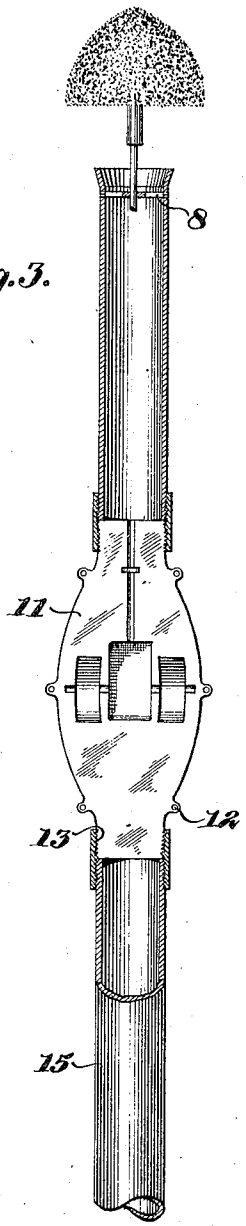


Fig. 3.

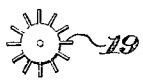


Fig. 4.

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UNITED STATES PATENT OFFICE.

STANLEY F. GULBA, OF SHAMOKIN, PENNSYLVANIA.

ROTARY NOZZLE BRUSH.

Application filed September 27, 1922. Serial No. 590,936.

To all whom it may concern:

Be it known that I, STANLEY F. GULBA, a citizen of the United States, residing at Shamokin, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Rotary Nozzle Brushes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a rotary fountain brush of the type commonly employed for cleaning automobiles.

The invention has for its object to provide a water motor driven brush which shall be sturdy in construction, compact and easy to handle and capable of manufacture at low cost.

One of the principal features of the invention consists in the provision of a water motor casing of ellipsoidal or oval form whereby the same may be easily grasped by the hand, this desirable form of casing being possible because of the novel form of water motor which I have devised. The casing is made in two halves, one of which has a pair of channels through which water under pressure may pass for rotating a pair of water wheels which serve to drive the brush.

The various novel features of the invention will appear from the detailed description taken in connection with the accompanying drawings forming part of this specification, and in which:

Figure 1 shows the improved device laid open by removal of one of the halves of the casing;

Fig. 2 is an elevational device;

Fig. 3 is a view similar to Fig. 1, but showing the other half of the casing, and

Fig. 4 is a side elevation of one of the water wheels.

In the drawings, 5 indicates any suitable form of brush which is removably secured to a shaft 6 which enters a pipe 7 having therein adjacent its end a bearing 8 for supporting the shaft 6, the pipe being preferably flared as at 9 to facilitate the discharge of water onto the brush 5.

The other end of the pipe is secured to a casing C of the water motor, said casing being of ellipsoidal form and consisting of two separable halves 10 and 11 which may be provided with lugs 12 through which suitable securing means are adapted to be passed to maintain the joints of the casing water tight. The ends of the casing are exteriorly threaded as at 13 whereby pipe couplings 14 may be screwed thereover to further assist in making the joints of the casing water tight. Into these couplings are screwed the pipe 7 and pipe 15 through which latter water is conducted to the casing, pipe 7 serving as a discharge pipe. Water passes through the casing by two separate paths 16 and 17, these paths constituting channels in only one of the halves of the casing. That part of the casing between the channels 16 and 17 may be termed an abutment and as shown, the ends of the same terminate short of the ends of the casing. Water wheels 19 are arranged in each of the channels and are connected by a common shaft 20 which extends transversely of and is supported by the abutment 18, and which is provided with a gear 21 between said water wheels, there being a cavity 22 in the abutment into which a part of the gear 21 extends.

The abutment 18 also forms a bearing for the shaft 6 which is prevented from longitudinal movement relative thereto by a collar 23 affixed on the shaft and the hub 24 of the gear 25 also fixed on the shaft and meshing with the gear 21.

Part 11 of the casing C as distinguished from the part 10 is not provided with water passages but is merely recessed to receive the upper halves of the water wheels, gears and shafts, as will be readily understood. The meeting faces of the halves 10 and 11 are flat.

The operation of the device may be briefly described as follows: Water under pressure is conducted through the pipe 15 to the casing C where it divides and follows the channels 16 and 17, and impinging against the water wheels 19, causes the same to be rotated, consequently imparting rotation to the brush 5 through the shafts and gearing, the waters again meeting at the discharge end of the casing and being discharged onto the brush 5 through the pipe 7.

By providing a divided water channel as shown, the exterior of the casing may be made in ellipsoidal form, this form allowing the device to be easily held in the hand. Furthermore, by providing a pair of channels, the water wheels can be made of comparatively small diameter and the entire

motor very simply, cheaply and sturdily constructed. The abutment 18 between the channels provides two solid points of support for the shaft 20, the bearings of which are easily made.

Both halves 10 and 11 of the casing C may be cast with the channels and cavities therein complete, the only machine work necessary being the finishing of the bearings for the shafts.

The improved device is comparatively simple but none the less important and reference is to be had to the appended claims for the scope of the invention.

What I claim is:

1. In a rotary brush, the combination of an ellipsoidal casing having a passage therethrough, said casing constituting two separable halves, and said passage occurring in only one of said halves and comprising two channels passing around an abutment, a water wheel disposed in each of said channels, a shaft joining said wheels, a shaft extending transversely of the said shaft and adapted to support a brush, gearing between said shafts, and the other of said halves having cavities therein for partially receiving said shafts and wheels.

2. In a rotary brush, the combination of an ellipsoidal casing having a passage therethrough, said casing constituting two separable halves, and said passage occurring in only one of said halves and comprising two channels passing around an abutment, a water wheel disposed in each of said channels, a shaft extending across said abutment and having bearing therein, a gear on said shaft between said wheels, the abutment having a cavity for receiving said gear, a brush-supporting shaft supported at one end in said abutment and having a gear thereon in mesh with the other said gear, and the other said half of the casing having cavities for receiving one half of the said moving parts.

3. In a rotary brush, the combination of an ellipsoidal casing having a passage therethrough, said casing constituting two separable halves, and said passage occurring in only one of said halves and comprising two channels passing around an abutment, a water wheel disposed in each of said channels, a shaft joining said wheels, a shaft extending transversely of the said shaft and adapted to support a brush, gearing between said shafts, the other of said halves having cavities therein for partially receiving said shafts and wheels, said halves being screw-threaded at their ends, a pipe screwed on the discharge end of the casing, and a bearing in said pipe for supporting the brush-supporting shaft.

In testimony whereof I affix my signature.

STANLEY F. GULBA.