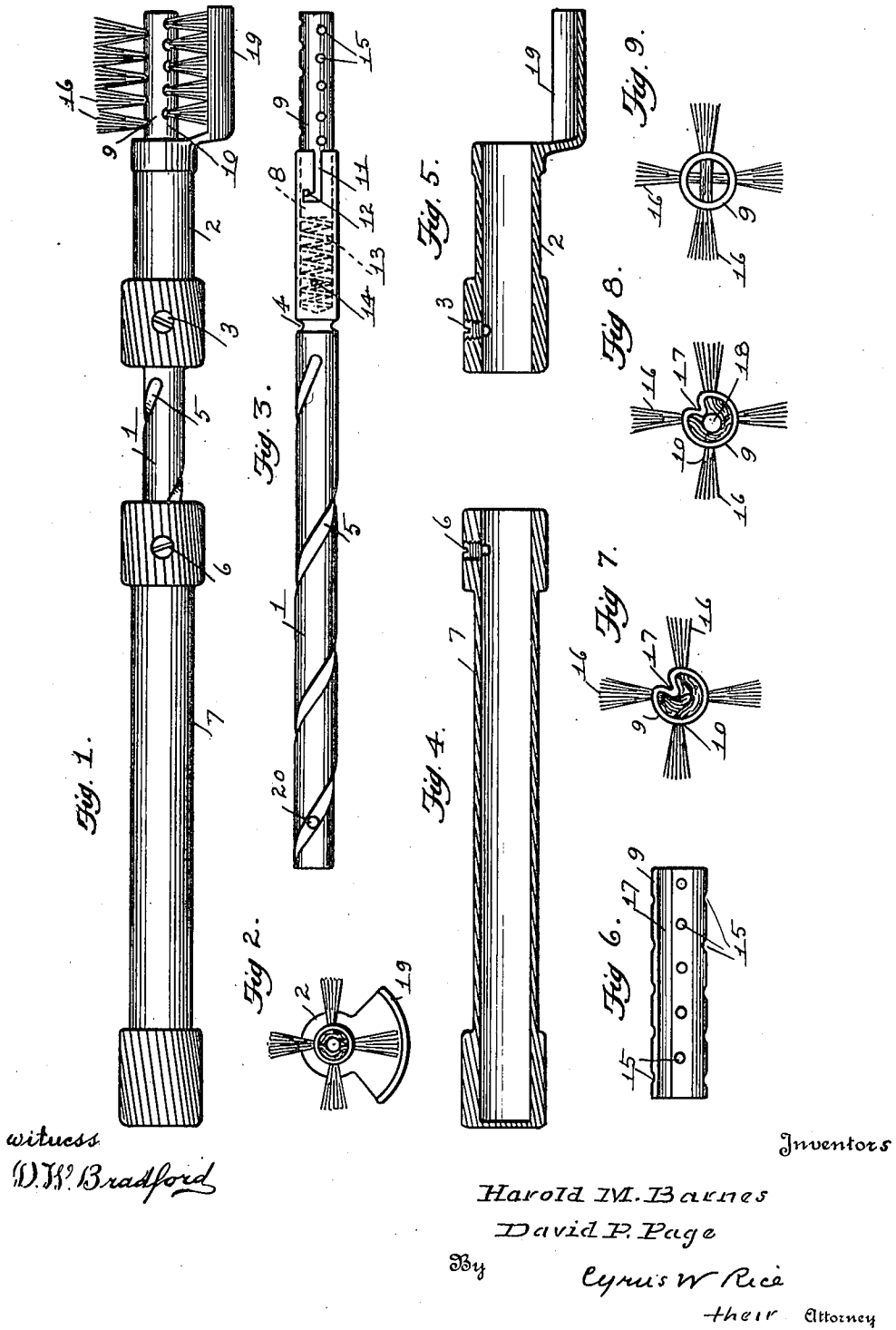


H. M. BARNES & D. P. PAGE.
BRUSH.

APPLICATION FILED JUNE 4, 1917.

1,256,288.

Patented Feb. 12, 1918.



UNITED STATES PATENT OFFICE.

HAROLD M. BARNES AND DAVID P. PAGE, OF GRAND RAPIDS, MICHIGAN, ASSIGNORS
TO GRAND RAPIDS BRUSH COMPANY, OF GRAND RAPIDS, MICHIGAN, A CORPORATION OF MICHIGAN.

BRUSH.

1,256,288.

Specification of Letters Patent.

Patented Feb. 12, 1918.

Application filed June 4, 1917. Serial No. 172,614.

To all whom it may concern:

Be it known that we, HAROLD M. BARNES and DAVID P. PAGE, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Brushes, of which the following is a specification.

The present invention relates to brushes; and its object is to provide a rotary brush and improved means for rotating the same; and more particularly, to provide a helix-operated member for rotating such a brush; and further, to provide detachable bristle-carrying portions of such brushes; and further, to provide means for removably securing such portions in place; and further, to provide shields extending along one side of such brushes; and further, to provide improved means for securing the bristles in cylindrical brushes.

These objects are attained by, and the invention finds preferable embodiment in, the structure hereinafter described and illustrated by the accompanying drawings, in which:—

Figure 1 is a side view of a rotary brush;

Fig. 2 is an end view of the same;

Fig. 3 is a side view of the rotatable member carrying the brush;

Fig. 4 is a central longitudinal section of the operating handle;

Fig. 5 is a like view of the bearing member in which the rotatable member revolves, and of the shield carried by the bearing member;

Fig. 6 is a side view of the hollow cylindrical body which carries the bristles;

Fig. 7 is an end view thereof with the bristles inserted;

Fig. 8 is a like view of the same, with a pin thrust thereinto; and

Fig. 9 is a like view of the same partially formed.

In the embodiment of the invention chosen for illustration by the drawings and for detailed description in the body of this specification, a brush adapted for use as a tooth brush is shown. The rotatable member 1 is revolved in a bearing member 2 adapted to be held in one hand of the user, and is secured in said bearing member by the screw lug 3 whose inner end extends into the annular groove 4. This rotatable member is provided with a helical groove 5 into which ex-

tends and travels the inner end of a screw lug 6 carried by the hollow operating handle 7 surrounding said member 1. As the handle 7 is moved longitudinally by the user's other hand, the rotatable member 1 and the brush carried thereby is rotated.

The outer end of the member 1 has an axially disposed socket 8 adapted to receive and removably hold the body 9 of the brush 10, so that such brushes may be replaced by others. This socket is provided with means for releasably holding the brushes in the socket, such means being in the construction shown, a bayonet slot 11 in which the lug 12 of the brush body 9 is adapted to move and turn. A spring 13 seated in the socket and held therein by a transverse pin 14 presses the brush body outwardly, in order to eject it from the socket when the lug 12 is turned to the longitudinal portion of the slot.

The body 9 of the brush is a hollow cylinder with radial orifices 15 therethrough, the bristles 16 of the brush extending through these orifices. A portion 17 of the brush body is bent inwardly, as particularly shown in Figs. 7 and 8 whereby the bristles inside the cylindrical body are bent laterally and pressed against the body's inner surface, as shown in Fig. 7, thus to securely clamp and hold the bristles in place. Fig. 9 shows the condition of the cylindrical body before its said portion 17 is thus bent. A pin 18 may be driven into the hollow body, which forces the bristles therein against the inner side of the body, bending them to one side or the other. If the portion 17 of the body be now bent inwardly in the manner hereinbefore described and as particularly shown in Fig. 8, the pin 18 will be forced toward the opposite side of the body's interior, thus heightening the clamped and bent condition of the bristles and reinforcing the securing thereof in place. A shield 19 is carried by the bearing member 2 and extends in the longitudinal direction of the brush and at one side thereof, as particularly shown in Figs. 1 and 2, to keep the tongue or cheek of the user from contact with the brush's bristles.

A stop 20 fixed in the helical groove holds the rotatable member in the operating handle by contacting with the screw lug 6.

The invention being intended to be defined solely by the claims is not to be limited to or by details of construction shown or described.

We claim:

1. A brush having a hollow cylindrical body with radial orifices therethrough, and bristles extending through the orifices; and
5 a pin within the hollow body; a portion of the wall of the body being bent inwardly to press the bristles against the body's inner surface.
2. A brush having a hollow cylindrical

body with radial orifices therethrough, and 10
bristles extending through the orifices; a
portion of the wall of the body being bent
inwardly to press the bristles against the
body's inner surface.

In testimony whereof we have hereunto 15
set our hands.

HAROLD M. BARNES.
DAVID P. PAGE.