

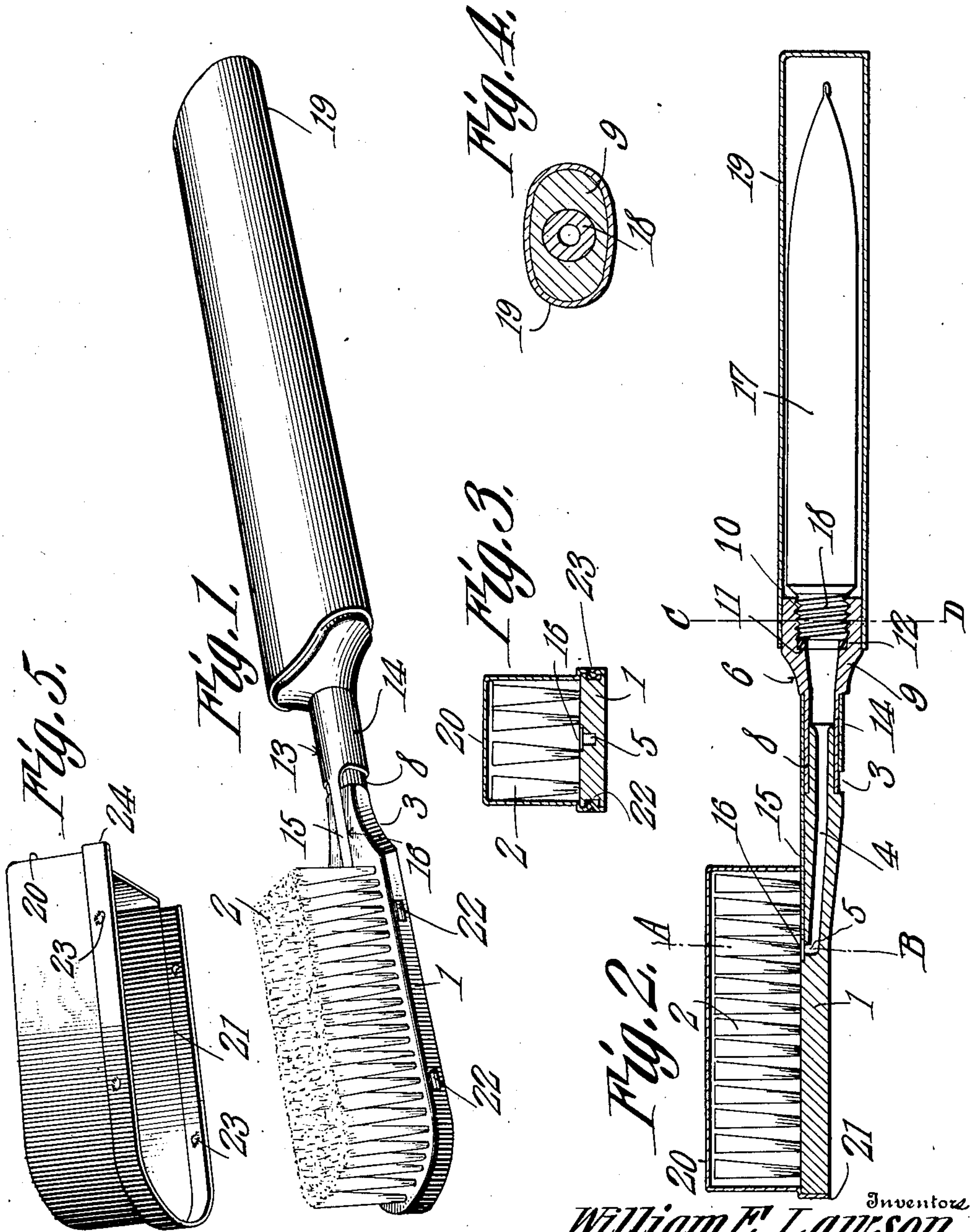
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FOUNTAIN BRUSH.

APPLICATION FILED JAN. 14, 1909.

919,440.

Patented Apr. 27, 1909.



Witnesses

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UNITED STATES PATENT OFFICE.

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FOUNTAIN-BRUSH.

No. 919,440.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed January 14, 1909. Serial No. 472,331.

To all whom it may concern:

Be it known that we, WILLIAM EARL LAWSON and WALTER RULON SMITH, citizens of the United States, residing at Rahway, in the county of Union and State of New Jersey, have invented a new and useful Fountain-Brush, of which the following is a specification.

The objects of the invention are, generally, the provision in a merchantable form, of a device of the above mentioned class which shall be inexpensive to manufacture, facile in operation, and devoid of complicated parts; specifically, the provision of a brush and a handle therefor of novel and improved construction, of novel means for mounting a collapsible tube in the handle, and of novel means for conducting the contents of the collapsible tube to the abrasive element of the brush and for controlling the outflow of the contents of the tube; other and further objects being made manifest hereinafter as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that divers changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings:—Figure 1 shows our invention in perspective, the shield being removed; Fig. 2 is a vertical longitudinal section thereof; Fig. 3 is a vertical transverse section on the line A—B of Fig. 2; Fig. 4 is a vertical transverse section on the line C—D of Fig. 2; and Fig. 5 is a detail perspective of the shield.

In the accompanying drawings the numeral 7 denotes generally a brush comprising a back 1 from which rises the abrasive element 2, which in the form selected as the subject of illustration, takes the form of ordinary bristles. The back 1 is provided with a reduced terminal 3, a central channel 4 piercing this reduced terminal 3 and being continued into the back 1 of the brush, the said channel 4 having an opening 5 in the midst of the abrasive element of the brush. The tubular socket denoted generally by the

numeral 6 comprises a neck 8 arranged to receive the reduced terminal 3 of the brush, and a base member 9 of larger diameter than the neck. The opening through this tubular socket 6 is enlarged within the base 9, whereby a shoulder 11 is formed arranged to receive a resilient packing ring 12, the base 9 being interiorly threaded as denoted by the numeral 10.

The valve 13 comprises a collar 14 arranged to reciprocate upon the neck 8 of the socket 6. From this collar 14 projects a resilient tongue 15 arranged to reciprocate in a groove 16 in the reduced terminal 3 and in the back 1 of the brush, and to open and close successively the opening 5 of the central channel 4.

The numeral 17 denotes the common collapsible tube in which dentifrices are commonly dispensed. This tube 17 is provided with a threaded neck 18 which, when the device is assembled, is engaged by the central opening in the base 9 of the socket 6.

The handle of the device includes the tubular socket 6 and the cap 19 which is retained upon the socket by close frictional contact between the walls of the cap at its terminal and the base 9 of the socket. The cross section of this cap 19 may be of any shape; preferably, however, since the collapsible tube 17 commonly becomes more or less elliptical in form after usage, the cap 19 is likewise made elliptical in cross section, the base 9 of the socket 6 obviously also being elliptical in order to receive and properly hold the cap.

A shield 20 is provided, the side walls of which are outflexed to form a shoulder 21 designed to be received by the upper surface of the back 1 of the brush. The side walls of the shield are downwardly flexed beyond this shoulder 21 to form a flange 24 arranged to embrace closely the edge of the back 1. The back 1 is provided upon its edges with apertures 22, and the flange 24 has indentations 23 alined with and adapted to register in the apertures 22 of the back of the brush.

In practical operation, the cap 19 is removed from the base 9 of the socket and the threaded neck 18 of the collapsible tube is introduced into the threaded portion 10 of the socket. The valve 13 is first opened by sliding the collar 14 backward upon the extension of the socket, the resilient tongue 15 uncovering the opening 5. The collapsible tube may then be compressed forcing its con-

tents out into the abrasive element of the brush. After the required amount of the contents of the tube has been forced out, the valve 13 is slid forward into its original position, thereby closing the opening 5. The cap is then replaced and the device is in a condition to be used.

The groove 16 in the back of the brush is of importance, since it tends to limit the movement of the resilient tongue 15 and to cause the said tongue to be always alined with the opening 5, the resiliency of the tongue 15 causing it to be at all times in contact with the back of the brush.

It will be noted that the tongue 15 is located upon the surface of the back 1 of the brush. This construction is of importance since it enables the supply of the contents of the tube to be cut off at the surface of the back. The abrasive element may then be washed without danger of the matter expelled from the tube being washed out of the channel 4. The channel 4 is closed at its extremity by the tongue 15, no portion of the said channel being left normally open to form a place of collection for the decaying material swept from the teeth by the brush. By thus closing the channel 4 at its extremity, the substance therein contained is not exposed to the air, whereby it might become hardened, impairing the operation of the device.

In order that none of the substance in the tube 17 shall flow backward about the neck 18 of the collapsible tube, it is desirable that the terminal of the said tube should be in firm abutment with the socket 6. If the tube did not lose its circular outline after use and further if its terminal were not flattened and extended laterally beyond its contour its application would be comparatively easy, since it would be necessary simply to rotate the threaded neck 18 into abutment with the socket, but since the tube becomes non-circular, it frequently happens that when the terminal of the neck 18 is in abutment with the socket, the longer cross sectional dimension of the tube is at an angle to the longer cross sectional axis of the base 9, in which position the cap 19 cannot be mounted in its place without revolving the tube backward, breaking the firm contact between the threaded neck 18 and the socket 6. To remedy this difficulty, the resilient packing ring 12 is introduced between the neck 18 of the tube and the shoulder 11, the resiliency of the ring permitting the tube to be rotated to a slight degree without impairing the connection between the collapsible tube and the socket.

It is obvious that in order to provide a device which may readily be placed in the pocket and conveniently carried therein, the cap 19 should conform in cross section closely to the collapsible tube; furthermore, by giv-

ing the cap 19 a major and a minor axis in cross section, the device may be placed upon a shelf without danger of its being overturned bringing the abrasive element into contact with the surface upon which it is supported, thereby soiling the supporting surface, or on the other hand, rendering the abrasive element of the brush unfit to be introduced into the mouth.

The shield 20 which may be used in connection with the invention, forms a simple and convenient means whereby the abrasive element of the brush may be protected. This shield is commonly fashioned from metal having sufficient resiliency to allow the flange 24 to pass over the back of the brush, the indentations 23 being readily introduced into and removed from the apertures 22 in the back.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, a brush; a shield arranged to cover the abrasive element of the brush and having its lower edge outbent to form a shoulder and downturned to form a flange, the flange and the back of the brush being provided with interlocking elements.

2. In a device of the class described, a hollow handle; a brush mounted therein and being provided with a central channel communicating with the interior of the handle, the said channel having an outlet in the midst of the abrasive element of the brush; and a valve slidably mounted upon the surface of the brush and being arranged to close the outlet of the channel.

3. In a device of the class described, a hollow handle; a brush mounted therein and being provided with a central channel communicating with the interior of the handle, the said channel having an outlet in the midst of the abrasive element of the brush; a collar slidably mounted upon the handle and having a resilient tongue arranged to open and close the outlet of the channel, the brush having a groove to receive the tongue.

4. In a device of the class described, a hollow cap; a tubular socket removably mounted in the cap; a brush mounted in the socket and being provided with a central channel communicating with the interior of the socket and having an outlet in the midst of the abrasive element of the brush; and a valve slidably mounted on the socket and arranged to close the outlet of the central channel of the brush.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM EARL LAWSON.
WALTER RULON SMITH.

Witnesses:

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