

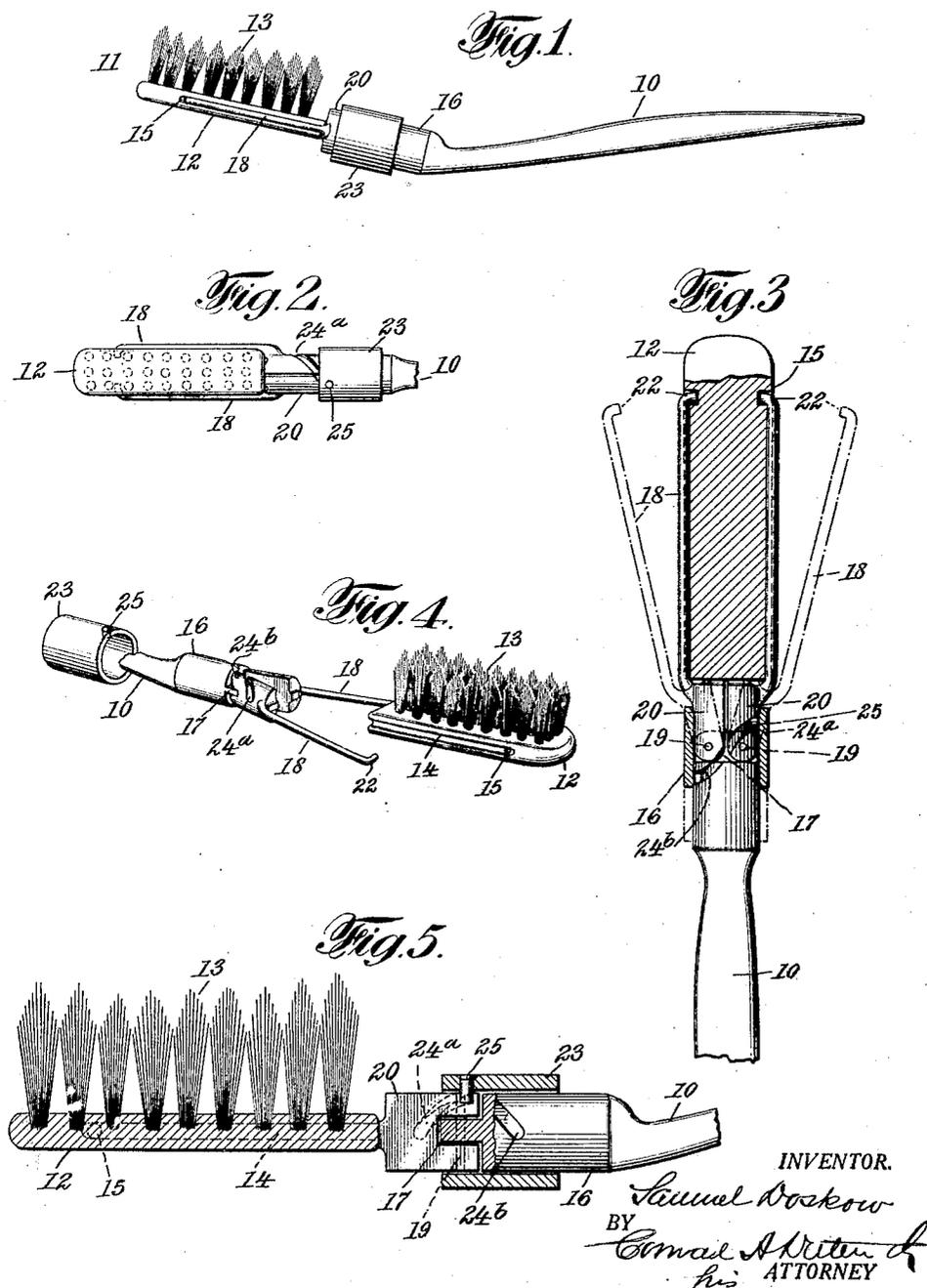
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TOOTHBRUSH

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INVENTOR.

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UNITED STATES PATENT OFFICE.

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TOOTHBRUSH.

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My invention relates to improvements in brushes, and the same has for its object more particularly to provide a simple, efficient, and inexpensive tooth brush or other similar device in which the brush body is formed separately from the handle part, and in which the brush body may be readily secured to, or detached from its handle portion when it is desired to remove or renew the same.

Further, said invention has for its object to provide a device of the character specified in which the brush head or the back thereof is engaged by members movably connected at their inner ends to the handle, and in which the same locking means retains said members in engagement with said head and holds the same against movement relative to said handle.

Further, said invention has for its object to provide a device of the character specified in which the parts thereof are readily locked together and released by imparting a quick longitudinal movement to the locking means therefor upon the rotation of said locking means.

Further, said invention has for its object to provide a device of the character specified in which the members or jaws for engaging the brush head or back are pivotally connected at their inner ends to the handle, and in which a tubular locking member disposed upon the end of said handle may be quickly projected beyond the end of said handle by imparting a slight rotary movement thereto and caused to engage said jaws for positively retaining the same in engagement with said brush back, and said brush back secured to the handle, and for locking said jaws against movement about the pivots thereof relative to said handle.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends my invention consists in the novel details of construction, and in the combination, connection and arrangement of parts hereinafter more fully described and then pointed out in the claims.

In the accompanying drawings showing an illustrative embodiment of the invention—

Figure 1 is a side view of the assembled device;

Fig. 2 is a plan thereof, showing the locking member in retracted position;

Fig. 3 is a horizontal section thereof;

Fig. 4 is a perspective showing the parts in released and separated position; and

Fig. 5 is an enlarged longitudinal vertical section thereof.

In said drawings 10 designates the handle of the device, illustrated as a tooth brush, and 11 the brush head or bristle securing member. The head 11 comprises a back 12 in which the bristles 13 are secured or anchored. Longitudinal grooves 14 are formed in the opposite edges of the back 12, which extend from the inner end thereof towards the outer end and terminate in recesses or depressions 15. The handle 10, which is separate from the head or bristle member 11, has a cylindrical portion 16 at one end thereof provided with a longitudinal projection 17 to which the jaws or members 18, for engaging the back 12, are pivoted for movement about the vertical axes 19. The members 18 comprise two semi-cylindrical inner portions 20 which, when the same engage each other, jointly correspond in cross section with that of the cylindrical portion 16. The outer portions of said jaws 18 are received within the grooves 14 of the back 12 with the inwardly directed ends 22 thereof extending into said recesses 15, whereby, when the parts are locked together, the same will serve to secure the member 11 to the handle 10 and hold the same against movement relatively to said handle 10.

The jaws 18 are held in closed position by locking means, such as an annular or tubular member 23 mounted upon the cylindrical portion 16, and movable longitudinally to project beyond the end of the handle and to embrace the semi-cylindrical parts or portions 20, and to be retracted to release the same to permit of the pivotal movement of the jaws 18. The locking means includes a relatively steep spiral groove or thread 24 formed in part upon one of the portions 20, as indicated at 24^a, and in part upon the portion 16, as indicated at 24^b. A stud or projection 25 upon the annular member 23 rides within said groove 24, whose ends serve as stops limiting the travel of said stud 25.

In operation, the head or member 11 is placed between the jaws 18 with the outer portions and ends 22 thereof disposed within the grooves 14 and recesses 15, respectively. A slight rotary movement then imparted to the member 23 will cause the same to be quickly moved beyond the end of the handle and embrace the portions 20 of the arms 18, and lock

the same in closed position; the frictional or wedging engagement of the stud or pin 25 with the groove 24 serving to effectively lock the parts together. It is to be noted that the member 23 serves to retain the arms or jaws 18 in engagement with the back 12, and the bristle member 11 secured to the handle 10, and also serves to maintain said arms against movement about the pivots 19 so that the entire structure, when assembled and locked, is rigid. When it is desired to release the head or member 11, for example, to replace the same when worn out or unfit for further use by another, the member 23 is rotated in the reverse direction until the pin 25 enters the portion 24^b of said groove 24, thereby sufficiently retracting the member 23 to permit of the free outward pivotal movement of the jaws 18 to release the brush member 11.

20 Having thus described my said invention, what I claim and desire to secure by Letters Patent is:

1. A device of the character described comprising a handle, members adapted to engage a brush back movably connected at the inner ends thereof to said handle, a tubular member movably mounted upon the inner end of said handle and adapted to engage said first named members for retaining the same in engagement with said brush back and positively locking the said members against movement relative to said handle, and means for imparting a quick longitudinal movement to said tubular member upon the rotation thereof of including a steep spiral groove in one portion of the device and a pin on another portion riding in said groove, substantially as specified.

2. A device of the character described comprising a handle having a cylindrical end portion, members for engaging a brush back movably connected to said end portion and each having a semi-cylindrical portion at the connection thereof, said semi-cylindrical portions jointly corresponding in cross section with that of said cylindrical end portion, a

tubular member rotatably mounted upon said cylindrical end portion, and means for imparting a quick longitudinal movement there-to upon the rotation thereof to cause the same to engage the adjacent portions of said first named members for retaining the same in engagement with the brush back and for locking the same against movement relative to said handle, substantially as specified.

3. A device of the character described comprising a handle, a pair of members adapted to engage a brush back and each movably connected at the inner ends thereof to said handle, a locking member mounted upon the end of said handle and adapted to engage said first named members, and a threaded connection between said locking member, one of said first named members and a portion of said handle engaged thereby, substantially as specified.

4. A device of the character described comprising a handle having a cylindrical end portion, a pair of jaws pivotally connected at their inner ends to said cylindrical end portions and having inner portions jointly corresponding in cross section with that of said cylindrical handle portion, and free outer portions adapted to engage a brush back for securing the same to said handle, a tubular member disposed upon said cylindrical end portion and adapted to project beyond the same to receive the inner portions of said jaws, a steep spiral groove formed in part upon the cylindrical end portion of said handle and in part upon one of the inner portions of said jaws, and a pin carried by said tubular member and adapted to travel in said groove upon the rotation of said tubular member, substantially as specified.

Signed at the city of New York, in the borough of Manhattan, county of New York, and State of New York, this 6th day of April, one thousand nine hundred and twenty-seven.

SAMUEL DOSKOW.