

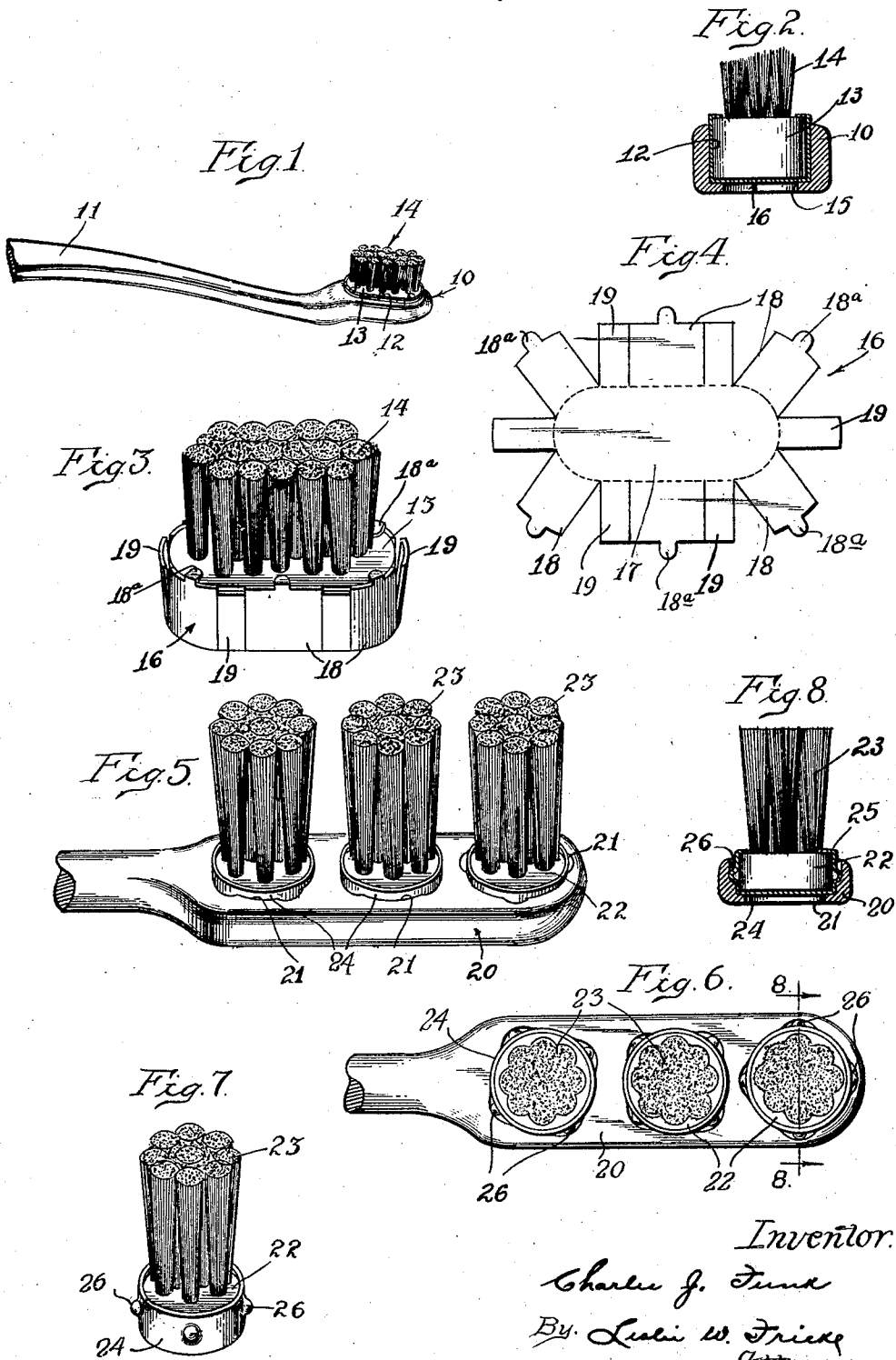
Jan. 8, 1929.

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1,698,128

TOOTHBRUSH

Filed Jan. 31, 1925



UNITED STATES PATENT OFFICE.

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TOOTHBRUSH.

Application filed January 31, 1925. Serial No. 5,939.

My invention relates to improvements in a toothbrush of the type wherein the brush head is made separable from the handle or holding member therefor whereby upon the brush head wearing down so that it is no longer effective or upon its becoming soiled, it may be discarded and a new one substituted.

One object of my present invention is to provide a practical toothbrush of the type mentioned and to improve generally the construction thereof to the end that the parts may be manufactured expeditiously and at low cost and the holding member for the brush manufactured entirely, if desired, from a moldable material such as celluloid, pyralin or the like.

Another object of my invention is the provision of a toothbrush wherein the head is so constructed that its edges will take a frictional grip upon the walls of the socket in the holding member, when the head is pressed thereinto, which will be ample to hold the head securely when handled or in use.

The invention consists in the novel arrangements and constructions to be hereinafter described and claimed for carrying out the above-stated objects and such other objects as will appear from the following description of certain preferred embodiments illustrated in the accompanying drawings, wherein—

Fig. 1 is a perspective view of a toothbrush embodying certain principles of my invention, a portion of the handle being broken off;

Fig. 2 is a transverse sectional view, on an enlarged scale, showing the construction of the brush receiving socket;

Fig. 3 is a perspective view on an enlarged scale of the brush head;

Fig. 4 is a plan view of the blank from which the band member surrounding the brush head is formed;

Fig. 5 is a perspective view and Fig. 6 is a plan view, also on an enlarged scale, illustrating a modified arrangement and construction;

Fig. 7 is a perspective view of one of the heads employed in the modified arrangement; and

Fig. 8 is a sectional view taken on the line 8—8 of Fig. 6.

Like characters of reference designate like parts in the several views.

Referring first to Figs. 1 to 4 of the drawings, the brush holding member 10 is pref-

erably integrally formed with and on one end of a handle member 11. The brush holding member is formed with a socket 12 which, in this particular embodiment, is oval in cross section and is adapted to receive the head 13 provided with the usual tufts 14 of bristles or other suitable material. The brush holding member 10 at its bottom side is preferably formed with an inwardly projecting perimetrical shoulder 15 to form a seat for the head of the brush. The shoulder 15 also aids in rigidifying and strengthening the brush holding member. A member 16 of some suitable resilient material, for example, phosphor bronze, is adapted to be placed over the head 13 with its marginal portions turned up around the edge portions thereof. The blank from which the member 16 is formed is shown in plan in Fig. 4. The central portion 17 of said blank is disposed flat against the back face of the head. It will be noted that the margins of the blank are slitted or cut out at various places so as to provide the alternately arranged holding portions 18 and the fingers 19. The holding portions 18 are turned up snugly against the edge portions of the head, the lips 18^a thereof being turned inwardly over the face of the head to secure the member 16 firmly thereto. As clearly shown in Fig. 3, the fingers 19 are turned up and are normally disposed at an angle with respect to the edge portions of the head, the fingers being arranged so that normally the upper ends thereof are spaced considerably from the edge portions of the head. The parts are so arranged that the head 13 with the member 16 thereon fits snugly in the socket 12 so that when the head is forced into the socket into contact with the shoulder 15 the spring fingers 19 take a reliable frictional grip on the walls of the socket.

In the embodiment illustrated in Figs. 5 to 8, the brush holding member 20 is formed with a plurality of sockets 21 which are substantially circular in cross section and into which the respective heads 22 carrying the bristles 23 may be inserted. In this arrangement each brush head is preferably disposed in a cup shaped band member 24, the upper edge 25 thereof being turned inwardly and over the face of the brush head to secure said member thereon. The member 24 is provided with a plurality of outwardly disposed protuberances 26. The parts are so arranged that the bottom of the member 24

will fit snugly into one of the sockets 21. By pressing the brush head completely into the socket the protuberances 26 will engage and force outwardly the walls of the socket which changes the shape of the socket and distorts the holding member 20; consequently, a reliable frictional grip is maintained between the walls of the socket and the edges of the brush head, and particularly between the walls of the socket and the protuberances 26. Should the holding member tend to set to the shape forced by the insertion of a head into a socket therein, a more secure grip on the brush head may readily be obtained by inserting the same brush, or a new brush, so that the protuberances engage new points on the walls of the socket thereby necessitating a re-arrangement of the material forming the walls of the socket and considerably increasing the grip on the brush head. While I prefer to employ the construction as shown, in which the protuberances are formed on a member surrounding the part 22, it will be understood that other constructions may well be employed without departing from the principles of operation of my improved brush.

In both of the constructions hereinabove described, the head of the brush is frictionally gripped at its edges in the brush holding member, the grip being reliable and ample to hold the head securely when the device is handled and when the brush is in use on the teeth. When the head becomes unfit for further use it may be readily removed and a new one substituted. It will be apparent to those skilled in the art that the constructions of my improved brushes are such that they may be inexpensively manufactured. The brush heads are of such constructions that it is entirely practical to make the holders therefor of a material such as celluloid, pyralin or the like. Such materials are highly desirable in the brush holding members because they are relatively inexpensive, possess sufficient strength and resiliency for the purpose and are easy to handle in carrying out the manufacturing operations thereon. Furthermore the finished brush holders are light in weight, attractive in appearance, require no special treatment or care to maintain them in a sanitary condition and produce no unpleasant sensation should they strike the teeth while they are being brushed.

I do not intend to limit my invention to the details of construction shown and described, except only in so far as certain of the appended claims are specifically so limited.

I claim:

1. A toothbrush comprising in combination a holding member having a socket therein, a tufted head member, a band formed separately from said head and said holding member insertable into said socket and of a size to receive the head member therein, positively acting means adapted to hold said band in fixed position with respect to one of said members, and spring means carried by said band adapted by engagement with the other of said members to hold the band removably in tight frictional engagement therewith.

2. A toothbrush comprising, in combination, a holding member having a socket, a brush head, and a band member of resilient material surrounding the edge portions of the head, said band member being slitted at certain places and formed so as to provide a plurality of outwardly extending spring fingers adapted to take a frictional grip on the walls of said socket when the head is pressed thereinto.

3. A tooth brush comprising, in combination, a holding member have a socket, a brush head, a band member of resilient material surrounding the edge portions of the head, and positively-acting means to secure said band member to said brush back, said band member being slitted at certain places and formed so as to provide a plurality of outwardly and vertically extending spring fingers adapted to take a frictional grip on the walls of said socket when the brush head is pressed thereinto.

4. A toothbrush comprising in combination, a holding member having a socket, a brush head, and a band member of resilient material surrounding the edge portions of the head, said band member being turned inwardly at certain places over the bottom and face sides of the head to secure it thereto, said band member being slitted at certain places and formed so as to provide a plurality of outwardly and vertically extending spring fingers adapted to take a frictional grip on the walls of said socket when the head is pressed thereinto.

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