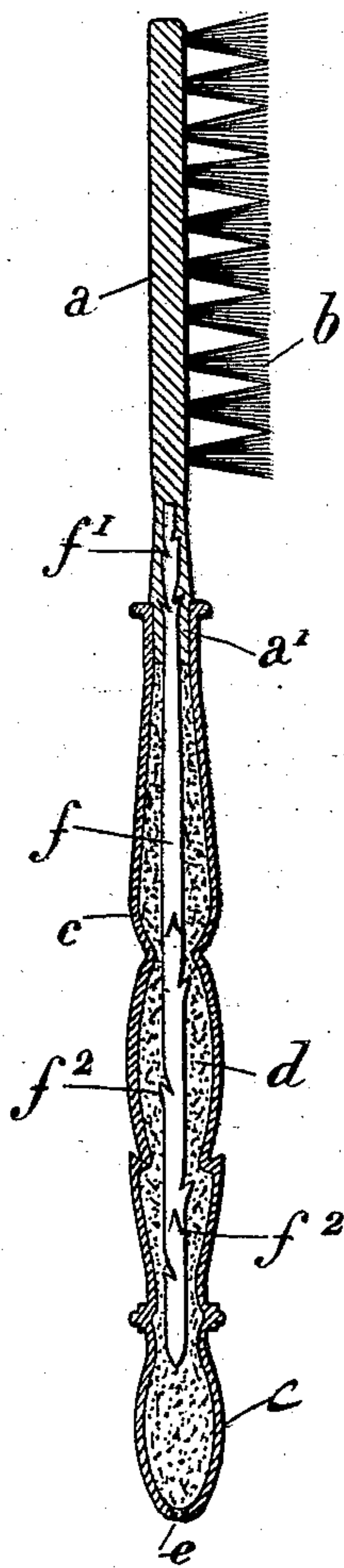


(No Model.)

W. WALLACH.
BRUSH.

No. 599,816.

Patented Mar. 1, 1898.



Witnesses
B. S. Ober,
W. Sommers.

Inventor
Willy Wallach,
by *[Signature]* Attorney

UNITED STATES PATENT OFFICE.

WILLY WALLACH, OF PARIS, FRANCE, ASSIGNOR TO CHARLES LOONEN, OF
SAME PLACE.

BRUSH.

SPECIFICATION forming part of Letters Patent No. 599,816, dated March 1, 1898.

Application filed February 8, 1897. Serial No. 622,499. (No model.)

To all whom it may concern:

Be it known that I, WILLY WALLACH, a citizen of the United States, residing at Paris, France, have invented certain new and useful Improvements in Brushes, of which the following is a specification.

My invention (for which protection has been secured in France in the name of Charles Loonen, with my knowledge and consent, by a certificate of addition, dated January 25, 1897, to the original patent, No. 237,750, dated April 13, 1894) relates to improvements connected with brushes generally, but is more particularly applicable to a finer class of brush—such as tooth-brushes, nail-brushes, and other like brushes for personal use; and the invention has special reference to improvements introduced in the kind of brush for which Letters Patent of the United States were granted to me under date of July 17, 1894, No. 523,058.

The improvement has mainly reference to the formation of the brush-head and to the connection of that head to the handle when it is a question of manufacturing tooth-brushes and other like fine brushes having a handle.

The object I have in view to accomplish is to lessen the cost of manufacture of that kind of brush, while at the same time producing a perfectly well-finished article which is very strong and the head of which, being solid, can be readily utilized for rapidly and economically attaching the bristles.

In my aforementioned patent I have described a brush-handle constituted by a hollow celluloid shell made of a single piece, into which is arranged a filling composed of a hard portion—say bone—filling out the head and capable of receiving the bristles, and of a shank or stem of any suitable metal rigidly connected to the bone or other hard material filling up the head by means of a metal sleeve or otherwise. This method, while perfectly well suited for proper end attachment of the bristles, calls for a labor which, if not complicated, at least remains more or less expensive, since it requires the following main operations: first, preparation of a celluloid shell and a bone or other hard filling for the head; second, connection of such filling to

the shank or metal stem of the handle; third, introduction of the filling into the shell; fourth, closing up the shell at the head end, through which the introduction takes place; fifth, sealing or cementing the stem or filling into the handle with a plastic material previous to the final closing up of the remaining other end of the shell.

The new method of manufacture which I have devised dispenses with a considerable amount of these operations and of the labor attendant thereupon, and, besides reducing the cost-price, it enables me to utilize with advantage in the formation of the brush-head itself the waste produced in the manufacture of certain celluloid articles.

The annexed drawing shows in section a tooth-brush made in accordance with the present improvement.

The brush is substantially constituted by a head *a*, for the reception and fastening of the bristles *b*, and by a handle *c*. The handle *c* is formed of a hollow shell molded from celluloid in the manner referred to in the aforementioned patent or in any other suitable manner, the said shell being subsequently filled up by a filling *d* of any suitable powdered material, compressed or not, whether wet or dry, capable of giving consistency and resistance to the article—such, for instance, as a mixture of plaster-of-paris and water. The head *a* is formed of a piece of celluloid, assuming a suitable shape for the purpose required and obtained by molding or otherwise. The lower end of the head *a* surrounds the upper end of a stem *f*, of any suitable metal or rigid material, embedded in the celluloid during the molding operation or otherwise. Suitable projections, teeth, or like asperities, such as *f'*, are formed in any suitable manner on the embedded end of the stem *f* for the purpose of increasing the adherence thereof to the celluloid.

At the lower end of the head *a*, surrounding the stem end *f'*, is formed an offset *a'*, engaging and fitting exactly the upper open end of the shell *c*. If desired, the connection between the head-offset *a'* and the shell *c* may be perfected or increased by the use of cement or any other means.

When the head has been introduced and

secured into the end of the shell, as shown in the drawing, the shell is filled up through the bottom hole *e* with any suitable filling *d*, as described, thereby imparting consistency and
5 stiffness to the handle and sealing the stem *f* firmly. The bottom hole *e* can then be plugged by a cemented disk of celluloid. On the stem *f* are likewise formed asperities, such as *f*², for anchoring the stem to the filling. The
10 bristles *b* can be mounted or secured to the solid celluloid or other head *a* in the manner usually adopted in the art of manufacturing brushes.

What I claim, and desire to secure by Letters Patent, is—

A brush comprising a brush-head, a shank or stem for said head, a hollow handle and a filler therein, in which said shank or stem is anchored, for the purpose set forth. 15

In witness whereof I have hereunto set my hand, this 26th day of January, 1897, in presence of two subscribing witnesses. 20

WILLY WALLACH.

Witnesses:

R. H. BRANDON,
D. H. BRANDON.