

June 5, 1945.

W. F. ZIMMERMANN

2,377,837

BRUSH APPLICATOR

Filed Dec. 3, 1942

Fig. 1.

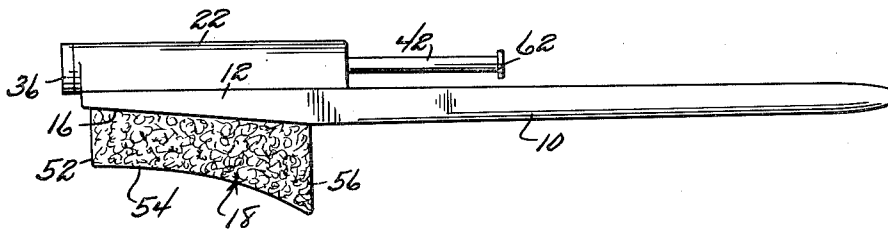


Fig. 2.

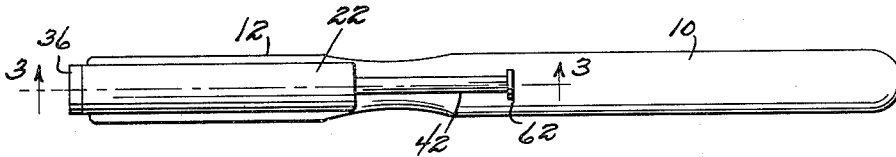


Fig. 3.

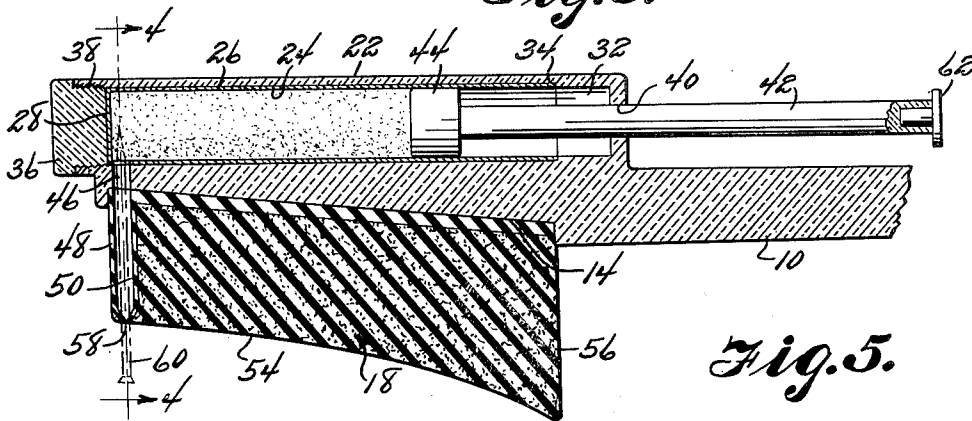


Fig. 5.

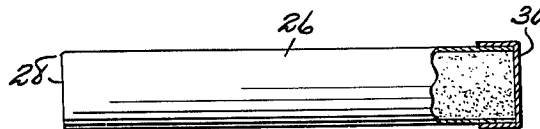
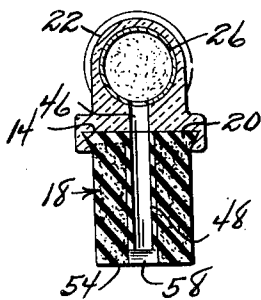


Fig. 4.



William F. Zimmermann INVENTOR.

BY
Victor J. Evans & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE

2,377,837

BRUSH APPLICATOR

William F. Zimmermann, Burlington, N. J.

Application December 3, 1942, Serial No. 467,763

2 Claims. (Cl. 15—125)

My invention relates to the cleaning and whitening of shoes, and has among its objects and advantages the provision of an improved applicator brush.

In the accompanying drawing:

Figure 1 is a side view.

Figure 2 is a top view.

Figure 3 is an enlarged sectional view along the line 3—3 of Figure 2.

Figure 4 is a sectional view along the line 4—4 of Figure 3, and

Figure 5 is a partial sectional view of an insert tube for the cleaning paste or liquid.

In the embodiment of the invention selected for illustration, I make use of a handle 10 analogous to a toothbrush handle and provided with a head 12 having a generally rectangularly contoured recess 14. The face 16 of the head 12 is flat but arranged in diverging relationship with the axis of the handle 10 rearwardly of the handle, and the recess 14 is of uniform depth and formed in the face 16.

In the recess 14 is anchored a cleaning and application brush 18 of sponge rubber. This brush is cemented or vulcanized to a rubber plate 20 fitting snugly in the recess 14. The side walls of the recess 14, the side edges of the plate 20 and side portions of the brush 18 are of dovetail contour to provide a good connection between the brush and the head 12. Formed integrally with the head 12 is a body 22 having a bore 24 for the reception of a whitening containing tube 26. This tube is originally formed with a closed end 28 and provided with a removable cap 30 at its other end. The cap 30 is removed before the tube is inserted in the bore 24. Figure 3 illustrates the bore 24 as being of reduced diameter at 32 to provide an annular shoulder 34 against which the open end of the tube 26 engages. A plug 36 is threadedly connected at 38 in the bore 24 and engages the tube end 28 to hold the tube in engagement with the shoulder 34. The opposite end of the body 22 is provided with a small bore 40 for slidably guiding a rod 42 having a piston 44 attached to its inner end and slidable in the tube 26. The inside diameter of the tube 26 is the same as that of the bore 32 so that the piston 44 may slide easily into the tube from a position in the bore 32, as when a new tube is inserted in the bore 24.

A bore 46 is provided in the body 12 and has communication with the bore 24. To the plate 20 is vulcanized a rubber tube 48 arranged at right angles to the longitudinal axis of the head 12 and vulcanized to the brush 18, with the tube 48 lying

in a groove 50 in the brush 18 to bring the tube flush with the brush end 52. All contacting portions of the tube 48 and the brush 18 are vulcanized together.

5 The face 54 of the brush 18 lies flush with the end of the tube 48 and is shaped with a progressively increasing curvature from the end 52 to the brush end 56. This provides an effective contour for applying the whitening paste or liquid to different contoured parts of the shoe.

10 The outer end of the tube 48 is slit at 58 and normally closes to provide a seal which prevents the paste or liquid from flowing from the tube. However, the tube opens when the whitening material therein is placed under pressure to deposit the material on the shoe and at the face 54 of the brush 18.

15 When a new tube 26 is inserted in the bore 24, a nail or pin 60 is inserted in the tube 48 and driven through the wall of the tube 26 to place the tube in communication with the bore 46. Thus the material in the tube may be extruded therefrom through the application of pressure on the piston 44. A head 62 is attached to the rod 42 to constitute a finger button which facilitates the application of pressure on the piston by the thumb of the hand grasping the handle 10.

20 Without further elaboration, the foregoing will so fully explain my invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

1. An applicator brush including a head having a fluid material containing chamber, a block of sponge rubber secured to said head, said block being of a narrow elongated formation and having an applicator face curved in the direction of the length of the block and progressively increasing in curvature rearwardly from the front to the rear end of the block, a flexible self-sealing tube extending through and vulcanized to the block in the forward end of the latter, said tube communicating with said chamber and opening in response to predetermined fluid material pressure in the chamber, and means for applying pressure to the fluid material within.

2. An applicator brush including a head having a chamber and a recess of cylindrical formation axially aligned with said chamber, the chamber and recess extending longitudinally of the head and the recess being positioned at the rear end of the chamber, an annular shoulder formed between the chamber and the recess having a diameter equal to that of the recess, a tube containing a fluid material located in the chamber having its

rear end in contact with the shoulder, the said end of the tube being open and the front end thereof closed, the inner diameter of the tube being similar to that of the recess and the outer diameter of the tube being similar to that of the chamber, the front end of the chamber being open to permit the tube to be inserted therein, a piston occupying the recess during the insertion of the tube into the cylinder and adapted to being moved out of the recess into the tube to expel the contents thereof, the contact between the inner end

of the tube and the shoulder between the chamber and recess enabling the piston to be moved into the tube without interference from or distortion of the tube, a plug in the forward end of the chamber in contact with the front end of the tube, a brush element attached to the head and provided with a passage communicating with the front end of the tube and means for operating the piston.

WILLIAM F. ZIMMERMANN.