Nov. 17, 1931. B. F. WUPPER 1,832,604

DENTAL CLEANER PACKAGE

Filed April 23, 1928

Fig. 1.

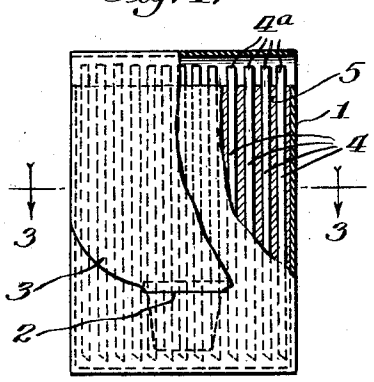


Fig. 2.

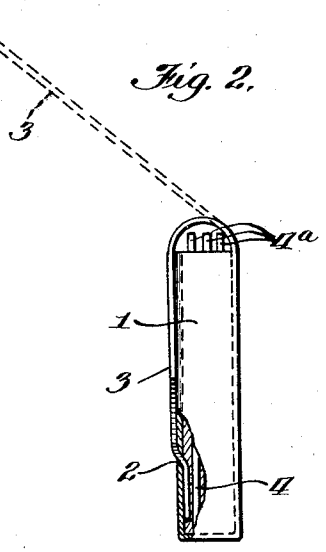


Fig. 3.

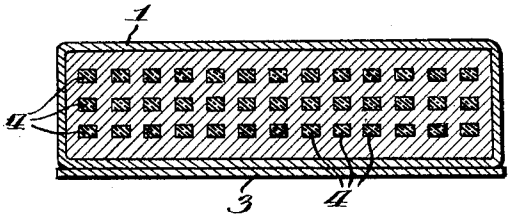


Fig. 4.

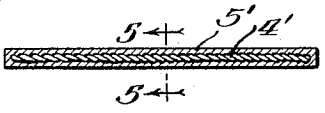
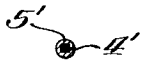


Fig. 5.



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UNITED STATES PATENT OFFICE

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DENTAL CLEANER PACKAGE

Application filed April 23, 1928. Serial No. 272,274.

My invention relates, generally, to dental cleaners and more particularly to the provision of a suitable package and container for strands of rubber used for cleaning the interstices between the teeth.

It is an object of my invention to provide an improved dental cleaner and a package therefor wherein the strands of cleaning material are held in a sanitary manner and are not exposed to contamination by air.

A further object is to provide an improved package container for rubber dental cleaners which will preserve the elasticity of the rubber.

It is the purpose of my invention to overcome some of the defects found in the present means used for cleaning the interstices between the teeth. It has been found that thread-like materials used for this purpose frequently are too coarse to fit between the teeth and also have a tendency to cut the gums, whereas rubber strands may be stretched to conform in cross-sectional size to the space between the teeth and thus be easily inserted. In the event that the teeth are set farther apart at their bases than at their crowns, the rubber may be released slightly so as to permit it to expand and thus thoroughly clean the larger space between the teeth at their bases.

By pre-twisting the rubber strands, they may be made more effective in cleaning and polishing.

Rubber strands proposed in the past for cleaning teeth have met with disfavor due to the difficulty of keeping the rubber antiseptically clean and preserving the elasticity of the rubber. My invention overcomes these disadvantages.

Other objects, features and advantages will appear from the following description, reference being had to the accompanying drawings, in which

Fig. 1 is an elevation of my improved package container, a portion thereof being broken away more clearly to show the invention;

Fig. 2 is a side elevation with a portion of the container broken away to show the interior thereof;

Fig. 3 is a transverse horizontal section taken on the line 3—3 of Fig. 1;

Fig. 4 is an elevation of a modified form of the dental cleaner; and

Fig. 5 is a cross-sectional view of the modified form taken on the line 5—5 of Fig. 4.

In Fig. 1, I have illustrated a thin cardboard or other suitable container having a box-like portion 1 with a slot 2 cut in its face and a flexible flap or cover 3 having a narrowed end portion adapted to fit in the slot 2. The box-like portion 1 contains a block of paraffin 5 in which a suitable aromatic antiseptic and coloring matter has been incorporated.

A plurality of lengths or strands of rubber 4, which are preferably white and approximately the same cross-sectional area as the ordinary narrow rubber band, are placed in a plurality of ranks and files with their ends 4*a* protruding a short distance from the end of the paraffin block. Each of these strands of rubber is thus hermetically sealed in the paraffin except for its projecting portion 4*a*. The paraffin has the effect of preventing deterioration of the rubber and also of maintaining it perfectly antiseptic since not even the atmosphere can come in contact with the rubber. The rubber strands may, however, readily be pulled from the paraffin for, when tension is exerted upon them, they contract in cross-sectional area and this frees the strands from the enclosing block of paraffin.

The package may contain any number of rows and files of these strands so that only a very small amount of paraffin is necessary to seal all of the strands. The strands are preferably enclosed in the paraffin by pouring melted paraffin over the rubber while the strands are held in suitably spaced relation by a form. A continuous process, using long strands of rubber fed from reel to forms into which the paraffin may be poured, is desirable for quantity production. The rubber is preferably tensioned slightly before the paraffin solidifies. When this tension is subsequently released, the rubber strands tend to increase their cross-sectional area. They do not return completely to their original length

because the cross-sectional area of the holes in the paraffin which they fill limits lateral or radial expansion. The strands are thus maintained under slight radial compression, and thereby urge their peripheral surfaces against the walls of their holes in the paraffin. This serves to prevent any moisture finding its way between the strands and the paraffin.

My invention is of advantage also in adapting itself to strands which do not run uniformly in diameter. The diameter or cross-sectional area of the strands can vary within considerable limits, and still the strands can be readily withdrawn without breaking the blocks. This is because upon withdrawal under tension, the cross-sectional area is so greatly enmalled that a strand can easily be withdrawn past any bottle-necking effect at a point where the strand was normally of a minimum cross-section.

In Fig. 4, I have shown a modified form of dental cleaner in which a twisted strand of rubber 4' is encased or coated with a relatively thick layer of paraffin 5 which, as above described, may include suitable antiseptic and coloring matter. In the use of this rubber strand, such as shown in Figs. 4 and 5, the paraffin may easily be removed by grasping the rubber strand at it ends and stretching it, whereupon the relatively brittle paraffin will crack and break off. The rubber strand may then be used as an interdental cleaner in the same manner as previously described.

While I have shown and described these particular embodiments of my invention, I contemplate that many changes may be made therefrom without departing from the scope or spirit of my invention.

I claim:

1. A packaged inter-dental cleaner comprising a cake of wax, a plurality of strands of elastic rubber molded therein and readily withdrawable therefrom without breaking the wax protective container enclosing the cake.

2. A packaged inter-dental cleaner comprising a block of wax, a plurality of strands of elastic rubber formed in the wax, the strands being out of contact with one another, and the wax completely encasing the strands throughout the major portion of their lengths, the disposition of the individual strands being sufficiently non-tortuous to permit the longitudinal withdrawal of the strands under tension without substantially rupturing the cake block.

3. A package of teeth cleansing instrumentalities comprising a plurality of separate flexible strands of convenient length and a single holding member of moisture and air impervious material supporting and surrounding said strands, said strands being easily deformed to permit separate withdrawal thereof from said member.

4. A dental cleaner package comprising a container, a block of wax in said container, and a plurality of strands of elastic material partially embedded in said wax so as to be readily removable therefrom without deforming said block.

5. A dental cleaner package comprising strands of rubber partially embedded in a block of paraffin, the portion extending from said block being adapted to be manually grasped so as to permit successive withdrawal of each of said strands from said block.

6. A sanitary dental cleaner package comprising a block of wax and a plurality of elastic strands embedded in said block and having manually graspable end portions protruding therefrom, said strands having their embedded portions normally under slight lateral compression and being removable from said block by pulling upon the protruding end portions thereof without materially deforming said block.

7. A dental cleaner package comprising an interdental cleaning strand having the greater portion thereof surrounded by a solidified homogeneous mass of paraffin-like substance, said strand being sufficiently elastic so that it may be withdrawn from said mass of paraffin-like substance by a force substantially less than the total of adhesive and frictional forces normally tending to hold said strand within the mass of paraffin.

8. A packaged inter-dental cleaner comprising a homogeneous mass of solidified wax and an elastic cleaner strand having its major portion imbedded in the mass, the adhesion of the wax to said strand being in such relation to the cohesion of said wax that the elastic strand may be longitudinally withdrawn free of clinging wax, without deforming the wax.

In witness whereof, I hereunto subscribe my name this 18th day of April, 1928.

BENJAMIN F. WUPPER.