

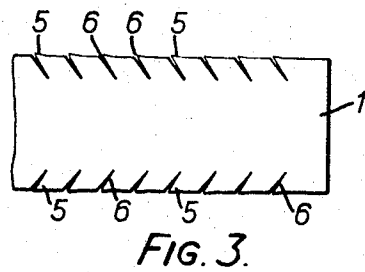
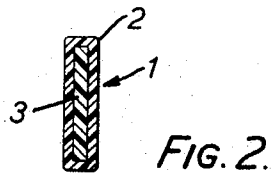
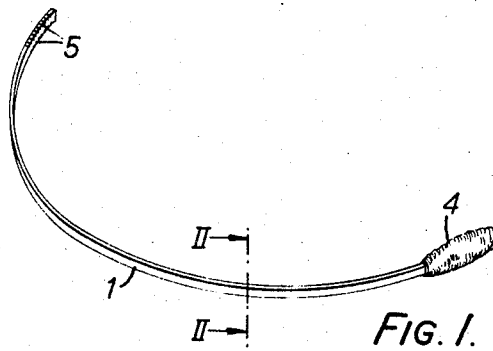
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MEDICAL APPLICATORS

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3,352,307

MEDICAL APPLICATORS

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This invention relates to a device for applying a disinfectant or any medicament to relatively inaccessible parts of the body. The invention is concerned particularly with an applicator designed for use in cleaning or treating the sinus cavities.

The problems involved in designing such an applicator are considerable in view of the complex sinuous nature of the nasal and sinus canals and the need to wipe the internal surfaces of the bone cavities with the swab, but without damaging the adjacent delicate tissues and membranes. Moreover it is important that no foreign bodies should be left in the cavities when the applicator is withdrawn.

The invention consists broadly in an applicator comprising a flexible resilient strip having a natural curvature, in that it has or is capable of being preset to a curvature to which it returns after being flexed, and which is provided at one end with an absorbent swab or formed with means to retain a swab in position.

Preferably the end of the strip is formed with barb-like reversed teeth to prevent the swab becoming freed from the strip.

According to one preferred feature of the invention the strip is flat-sided and has substantially greater width than thickness.

For added safety, and in case the end of the strip might break off in use, the strip is preferably formed with an internal reinforcing member such as a nylon thread.

The strip is conveniently formed of a synthetic plastics material such as polythene, polyvinylchloride, or polystyrene, affording a smooth surface which can be cleaned easily, and which will facilitate insertion into the cavities. It may also be of any synthetic plastic material or other substance of burred or absorbent form, or formed with a suitable retaining end piece; it may be disposable or reusable.

According to another preferred features of the invention the strip is relatively flexible in the plane of its natural curvature, and relatively stiff in a direction perpendicular thereto.

The invention will now be further described with reference to the accompanying drawings which illustrate, by way of example, an applicator forming one specific embodiment. In the drawings:

FIGURE 1 is a perspective view of the embodiment when lying freely on a flat surface,

FIGURE 2 is a sectional view on the line II—II in FIGURE 1, and

FIGURE 3 is a view of an end portion of the embodiment.

In this example the applicator comprises a strip 1 of material approximately 6 inches long, 0.1 inch wide and 0.025 inch in thickness. The strip 1 consists of an outer layer 2 of a smooth-surfaced synthetic plastics material, such as polystyrene, moulded around an internal thread or tape 3 formed of nylon thread or fibre. The strip 1 has a natural curvature such that in its relaxed condition the radius of curvature is approximately 2 inches.

Thus if allowed to take up a free position on a flat surface it will, as shown in FIGURE 1, form a roughly semi-circular hoop with a thin edge of the strip in contact with the surface. The strip 1 is relatively flexible in the plane of its natural curvature, i.e. a plane parallel to

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the said surface on which it rests, and relatively stiff, in the sense of being resistant to flexing in directions perpendicular thereto, and this is an important feature in the design of the applicator since it permits the applicator to flex readily so as to pass through the sinuous nasal passages, and then by turning the applicator as required it can be made to press a swab 4 as required against the bone surfaces.

At each end of the strip 1 there are formed barb-like teeth such as 5 provided by small knife cuts such as 6 (see particularly FIGURE 3) in the two thin edges of the strip inclined rearwardly towards the centre of the strip. The barbed teeth 5 are designed to assist in providing a grip on a cotton wool or other absorbent material forming the swab 4 and wrapped around the end of the strip 1, and to prevent the swab 4 becoming detached in use.

The strip 1 is provided with the barbed teeth 5 at each end so that either end can be used, thus providing a double-ended applicator.

Depending upon the patient's condition different antiseptics or medicinal fluids may be used and applied by the swab 4 but for general purposes it is preferred to use a medicament in liquid form having both disinfectant and curative properties.

I claim:

1. An applicator for cleaning or treating sinus cavities, comprising a flexible resilient strip having a natural curvature and provided over an end section of the strip with angled incisions providing barb-like reverse teeth which do not project beyond the width of the strip, and a swab wrapped around said end section and retained thereon by said teeth.

2. An applicator for cleaning or treating sinus cavities, comprising a flat-sided flexible resilient strip having a natural curvature to which it tends to return after having flexed, the strip being of substantially greater width than thickness so that it is relatively flexible in the plane of said natural curvature and relatively stiff in a direction perpendicular thereto, and a swab on an end section of the strip, said end section of the strip being formed with means to retain the swab in position.

3. An applicator according to claim 2, wherein the end section of the strip has barb-like reverse teeth which form said retaining means and lie entirely within the width and thickness of the strip.

4. An applicator as claimed in claim 2, in which the strip is formed of a synthetic plastics material.

5. An applicator as claimed in claim 4, in which the strip has an internal reinforcing member such as a nylon thread running longitudinally through the strip.

6. An applicator for cleaning or treating sinus cavities, comprising a flat-sided resilient strip having a natural curvature at right angles to the width of the strip which is substantially greater than the thickness thereof, so that the strip is relatively flexible in a plane containing the curvature and relatively stiff in a direction perpendicular thereto, the side edges of an end section of the strip being formed with angled incisions to provide barb-like reverse teeth lying within the width and thickness of the strip and which are adapted to retain a swab covering said end section.

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70 ADELE M. EAGER, Primary Examiner.