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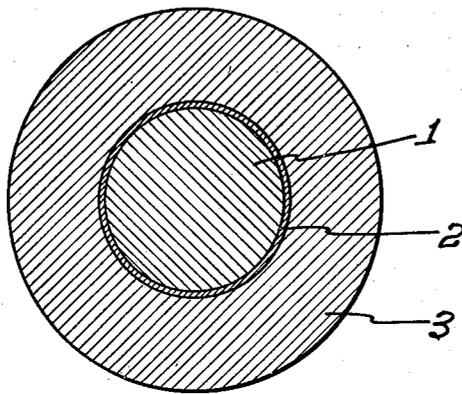
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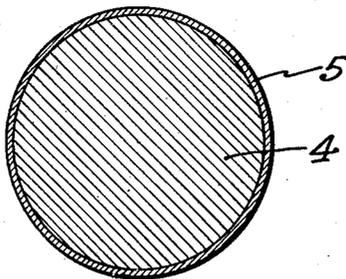
COLOR CHANGING ANTISEPTIC COMPOSITION

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*Fig. 1.*



*Fig. 2.*



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## COLOR CHANGING ANTISEPTIC COMPOSITION

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4 Claims. (Cl. 167-13)

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This invention relates to a color changing anti-septic and germicidal composition.

The present application may be considered as a substitute application for my prior forfeited application Serial No. 333,881, filed January 21, 1929.

It is an object of the invention to provide an antiseptic and germicidal solution which after a predetermined length of time will undergo a decided change in color, thereby calling the attention of the user of the solution to the fact that the solution has probably deteriorated and is no longer safe to use to accomplish the normal or expected results. In this manner the user of the solution is notified that a new or fresh solution should be substituted therefor.

The present invention is of general application but may be very advantageously used to sterilize brush heads of tooth brushes after use. Antiseptic and germicidal solutions used for sterilizing tooth brushes are apt to have their antiseptic and germicidal properties exhausted after a comparatively short period of time and may be considerably diluted with use so that a fresh solution should be used for the old one.

As a means of indicating when the solution should be replaced the present invention contemplates changing the color of the solution in a decided and sudden manner, thereby notifying the user that the solution should be changed.

My invention consists of the composition of matter hereinafter described and claimed. In the accompanying drawings I have illustrated by way of example the construction of the composition of matter embodying the invention.

Fig. 1 is a vertical cross section of a capsule embodying the present invention.

Fig. 2 is a similar cross section showing a modified form thereof.

Referring to the accompanying drawings, wherein similar reference characters designate similar parts, a capsule, tablet or pellet illustrated in Fig. 1 consists of a core or coloring portion 1 enclosed within a shell 2. An antiseptic and germicidal composition 3 surrounds the shell 2.

In the modified form shown in Fig. 2, 4 indicates the core of the color changing composition, and 5 a surrounding shell enclosing the same.

The core 1 is compounded in the following manner:

	Parts
Gum acacia .....	1
50% alcohol .....	50
Powdered magnesium carbonate .....	50
Amaranth dye .....	1/25000

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The ingredients above mentioned are thoroughly mixed together and are formed into a pill-like or spherical body. This may be formed by any suitable or preferred means and the body thus formed is given a coating of approximately 1/4 inch in thickness consisting of one part of shellac mixed with one part of powdered magnesium carbonate, thus forming the surrounding shell 2.

The outer coating 3 is compounded as follows:

Water .....	ounces	2
Thymol .....	grams	1
Menthol .....	do	1
Sodium perborate .....	do	1
Boric acid .....	do	4

These ingredients are thoroughly mixed into a paste and are applied about the shell 2.

The capsule prepared as above described may then be placed into water to be used as an antiseptic and germicidal solution for sterilizing tooth brushes. The outer body 3 will go into solution in the water, leaving the shellacked core 1. About seven grams of the body 3 and about one gram of core 1 are sufficient for two ounces of water. The coating of shellac 2 slowly disintegrates in the course of a few days, allowing the water to reach the core 1 and to suddenly liberate the intensely red amaranth dye which will impart its color to the solution, thus indicating that a change or replacement of the latter is necessary.

The magnesium carbonate serves merely as an inert filler to give body to both the core 1 and the surrounding shell 2. By increasing the size of the core, but by use of the inert filler, a larger outer surface is exposed to the solvent action of the antiseptic solution so that the time in which the shell 2 disintegrates to liberate the coloring agent may be more easily and accurately controlled. In a like manner the magnesium carbonate in the shell 2 serves to control the time by rendering the shellac with which it is associated more easily soluble.

It is desirable that the coating or shell 2 be disintegrated in a predetermined length of time, such as for example seven to ten days. It is obvious that by making the coating 2 of less thickness the liberation of the coloring matter will take place in a shorter interval of time. Conditions of temperature of the solution and stirring of the solution about the shellacked core 1 will hasten the liberation of the coloring matter but this is ordinarily of no consequence. The object of the present construction is to produce a sudden

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change of color of the solution within safe limits before the antiseptic and germicidal solution is completely exhausted.

It is not necessary that the composition be prepared in the manner illustrated in Fig. 1, where the shellacked core 1 containing the coloring matter is surrounded by the antiseptic composition 3. It is more convenient for use to prepare the composition in this manner as the proper composition will thus be always associated with the color indicating means. It is possible to prepare an antiseptic solution separately and to use therein a color indicating means as shown in Fig. 2 wherein the core 4 contains the coloring matter surrounded by a shellac coating 5.

The invention also contemplates a change of color in the solution itself. For instance, the antiseptic solution, slightly alkaline, may be colored a carmine tint by means of a sodium salt of phenolphthalein, and the core may consist of any acid such as, for example, citric acid, which when liberated by the deterioration or breaking down of the coating 5 will render the solution slightly acid, thereby quickly neutralizing the carmine color of the solution.

It will be understood that the invention does not consist in the specific proportions of the ingredients of the body 3. Any other suitable composition soluble in water and possessing antiseptic and germicidal properties may be substituted therefor. Likewise, any other suitable dye may be substituted for amaranth. The coating of shellac may be replaced by any other suitable coating or shell which, within a relatively short period of time, will allow access of the solution to the interior of the coating so as to liberate the coloring matter of the core.

In the form of construction illustrated in Fig. 2 the core 4 enclosed in the coating or shell 5 may be of any composition which on being liberated by the deterioration of shell 5 will either color the solution or bring about a desired change of color of the solution if the solution is already colored.

Various changes may be made in the details of construction without departing from the spirit or scope of the invention as defined by the appended claims.

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I claim:

1. A capsule having an inner core of a dye, a shell enclosing said dye, said shell having the property of allowing access to said dye after an extended interval of time when immersed in water, and an outer body associated with said core containing a water soluble antiseptic and germicidal composition.

2. An indicator for antiseptic solutions comprising a shell including shellac mixed with magnesium carbonate, said shell being slowly soluble in a predetermined time in the antiseptic solution in which it is to be used, said shell enclosing amaranth dye to impart a desired change of color to the solution upon its liberation from said shell.

3. A capsule having an inner core containing amaranth dye surrounded by a shell of shellac, and an outer body surrounding said core containing a water soluble antiseptic and germicidal composition.

4. A capsule having an inner core of a dye, a shell enclosing said dye, said shell having the property of allowing access to said dye within a predetermined length of time when immersed in a liquid, and an outer body associated with said core containing an antiseptic and a germicidal composition soluble in the liquid.

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