United States Patent

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[54] **SUBSTITUTE FOR A SMOKING ARTICLE SUCH AS A CIGARETTE**

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[52] **U.S. Cl.** **131/8,** 131/10.1, 131/170, 128/201

[51] **Int. Cl.**.....**A24b 15/00,** A24f 13/00, A24f 25/00

[58] **Field of Search**.....131/10.1, 171, 170, 9; 128/201, 208; 401/132

[56] **References Cited**

UNITED STATES PATENTS

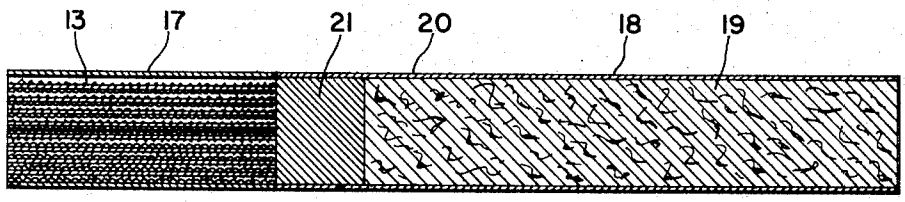
3,334,636	8/1967	Zuber	131/10.1
3,196,478	7/1965	Baymiller et al.	131/10.1 UX
3,390,686	7/1968	Irby, Jr. et al.	131/10.1 X
3,347,231	10/1967	Chang	131/10.1 UX
3,339,558	9/1967	Waterbury	131/10.1
3,200,819	8/1965	Gilbert	131/171 X
2,860,638	11/1958	Bartolomeo	131/170

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Assistant Examiner—J. F. Pitrelli
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[57] **ABSTRACT**

This invention provides a substitute for a smoking article wherein the taste and aroma of burning tobacco may be inhaled without the inhalation of smoke created by the combustion of tobacco.

5 Claims, 7 Drawing Figures



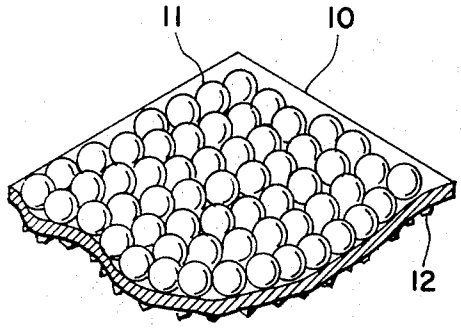


Fig. 1.

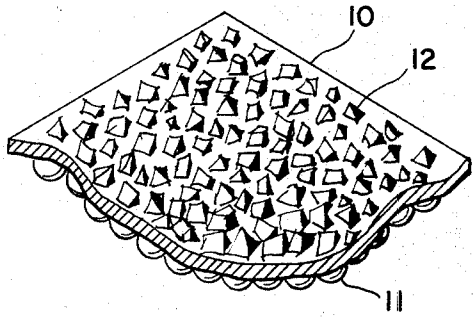


Fig. 2.

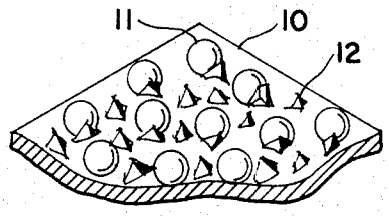


Fig. 3.

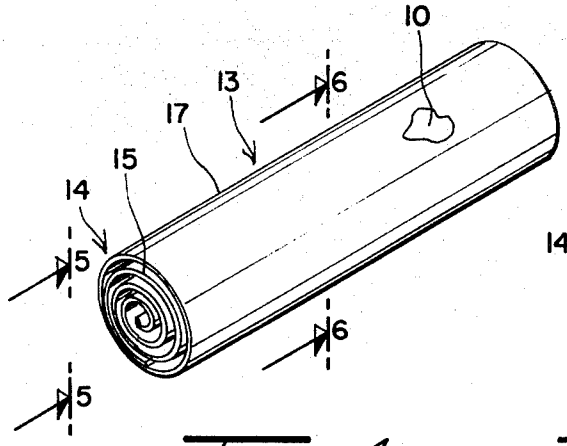


Fig. 4.

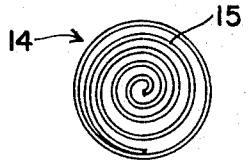


Fig. 5.

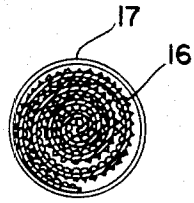


Fig. 6.

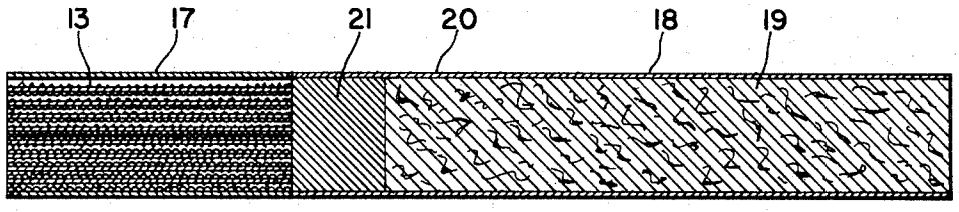


Fig. 7.

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SUBSTITUTE FOR A SMOKING ARTICLE SUCH AS A CIGARETTE

There have been many attempts in past years, and up to and including the present time, to provide filtering means for smoking articles such as cigarettes wherein the smoke created by the combustion of tobacco was drawn through various types of materials designed to entrain certain of the particulate matter and gases carried by the smoke. Certain other methods have been devised for rarefying the smoke to reduce the amount of harmful substances drawn into the smoker's mouth. However, while some of the proposed devices were effective in entrapping certain of the products of combustion, and others provided differing alleged improvements in the smoking qualities of the products with which they were used, few have permitted the passage to the smoker's mouth of the clean flavor and aroma of the smoke of burning tobacco unburdened by combustion products, and it is the flavor and aroma which provide the basic reason for smoking.

In the present invention, it is proposed to employ the widely known and industrially accepted process of micro-encapsulation to implant in a simulated smoking device the flavor and aroma of tobacco smoke and to permit the passage of such flavor and aroma from the article in which it is implanted, into the mouth of the user.

In the same manner that synthetic sweeteners provide a satisfying sugar substitute for diabetic persons and those desiring to effect a weight reduction, this synthesized smoke provides the user with the satisfaction of the taste and aroma he has heretofore been accustomed to derive from lighting and smoking a cigarette. Such synthesized smoking eliminates the widely publicized hazards to heart and lungs suffered by inveterate users of conventional tobacco cigarettes. It can eliminate also the fire hazard to clothing, furniture and bed covers when careless smokers fail to dispose properly of the ashes and burning stubs of their cigarettes.

Recent developments in the field of flavor synthesis have brought forth many flavors, fragrances, aromas and odors of diverse types for differing industrial and commercial uses. The synthesizing of the taste and aroma of burning tobacco is one of these developments.

The products of micro-encapsulation are used in many ways, one of which is their deposit upon selected surfaces in thin coatings somewhat resembling the application of a coating of ink or paint. The fragrance or odor may be released by compression or abrasion, as by exerting pressure with the thumb-nail upon the surface thus coated. In sizes slightly larger, the micro-cells are equally adherable upon a surface and may be ruptured by a somewhat lesser amount of compression.

The present invention contemplates the use of micro-cells, each bearing the flavor and aroma of burning tobacco for release thereof upon rupture of the micro-cell. Additional flavors such as menthol, mint, etc. may be encapsulated and used with the tobacco smoke simulation in this invention. Such micro-cells are deposited upon a surface which may be of paper or any other suitable material, paper being named as an example and without intent of limitation. For the purpose of simplification, the word "paper" will hereafter be used in such non-limiting sense.

The paper thus coated is then rolled spirally or in convolutions to create a cylindrical member having substantially the diameter of a conventional cigarette. The member may be either the over-all length of a cigarette, to provide a like appearance as well as a flavor and aroma simulation of a burning cigarette, without combustion; or it may be approximately the length of a conventional cigarette filter, for attachment to an elongated rod of combustible material, which may be tobacco or may be of a totally different nature. In the latter structure, impermeable blockage between the two parts is provided, so that no combustion products resulting from the burning of the elongated rod are permitted to reach the micro-cell treated member and thus, the user's mouth.

In addition to the flavor and aroma bearing micro-cells thus deposited on the paper, there may be abrasive material such as fine sand particles disposed upon or within the folds of the paper, such abrasive material serving to rupture the micro-cells and release the contents thereof when compression such as by rolling or squeezing is exerted upon the member.

For a better understanding of the invention, reference is made to the accompanying drawings, in which

FIG. 1 is an enlarged perspective view of a section of a sheet as of paper having a coating of micro-cells thereon, and on the reverse side, a coating of particles of abrasive material;

FIG. 2 shows the reverse side of the sheet of FIG. 1;

FIG. 3 is an enlarged perspective view of a section of a sheet as of paper having a coating of micro-cells thereon and, disposed thereamong and adjacent thereto, small particles of abrasive material;

FIG. 4 shows the sheet of FIGS. 1 and 2 or 3 formed into a body having a cylindrical configuration;

FIG. 5 shows an end view of the body of FIG. 4, taken on line 5—5 thereof;

FIG. 6 shows a cross-section of the body of FIG. 4, taken on line 6—6 thereof, wherein by said spiral rolling, the particles of abrasive material upon a surface of said member, are disposed in face to face relationship with said micro-cell coated surface; and

FIG. 7 shows a longitudinal cross-section of a simulated smoking device having the member of the present invention longitudinally attached to an elongated rod of combustible material, the total length being approximately that of a conventional cigarette, and between said member and said rod, an impermeable member to prevent the products of such combustion from entering the micro-cell coated member at the user's end of the device.

Referring more particularly to the drawings,

FIG. 1 shows an enlarged section 10 of a sheet having upon one surface thereof a coating of micro-cells 11, and upon the reverse surface, a coating of particles of abrasive material 12.

FIG. 2 is a reverse view of the sheet, micro-cells and abrasive particles of FIG. 1.

In FIG. 3, said micro-cells 11 and abrasive particles 12 are shown intermixedly disposed upon the same side of member 10.

FIG. 4 shows the sheet 10 of FIGS. 1 and 2 or 3, formed into a cylindrical body 13 by spiral rolling of said sheet.

In FIG. 5 there is shown a cross-section at the end of the body member 13 of FIG. 4, with end 14 showing spiral roll 15 of the paper upon which the micro-cells and abrasive material are applied.

FIG. 6 shows a cross-section of FIG. 4, wherein micro-cells and abrasive material are disposed on opposite sides 16 of said paper.

In FIG. 7 there is shown in longitudinal cross-section the member 13 with wrapper 17, attached to an elongated rod member 18 formed of combustible material 19, said member 13 and rod member 18 being enclosed in wrapper 20 and disposed between said two members, an impermeable block 21, to prevent smoke from the combustible material 19 when ignited, from passing into member 13.

For the person who prefers only the taste and aroma of a cigarette, without the necessity of combustion of any material, the micro-cell coated member, of a length approximating that of a conventional cigarette, provides a satisfying simulation of smoking. In this structure, the body of the device is compressed at any point, as by squeezing or rolling between the thumb and fingers, and air is drawn through the device and into the user's mouth. Successive alternations of compression of the article and inhalation of the air thus drawn therethrough, produce a prolonged period of enjoyment without any combustion of any sort, or any inhalation of smoke which may have an adverse effect on heart or lungs.

For users who desire to produce combustion and see the smoke thus produced, the micro-cell coated member, having a length approximately equal to that of a conventional cigarette filter, is attached to an elongated rod of tobacco or any other combustible material, preferably of vegetable fiber, and the outer end of said rod is lighted in the usual fashion. However, the blocking member disposed between said micro-cell member and said elongated rod, being impermeable, prevents smoke from being drawn into the micro-cell member, and the combustible material burns without benefit of a draft of air drawn therethrough. Combustion continues independently at the outer end of the device, and inhalation by the user carries into his mouth the synthesized taste and aroma of burning tobacco, the intensity of said taste and aroma being governed by the amount of compression exerted by the user upon the end portion of the device. Repeated compression prior to each succeeding inhalation produces a continuing sensation of smoking, by the transmittal to the user's tongue and nostrils of the taste and aroma released upon the rupture of the micro-cells.

It may be queried how one can taste a flavor that is received into the body through inhalation. The answer will be readily apparent to anyone who has had the experience of approaching a large city that is constantly overhung with a cloud of polluted air. As for example, in approaching New York City, one can detect the smell of gases and pollutants while still a number of miles outside the city. Somewhat nearer, but still not actually in the city, the same pollutants that have been detected by the olfactory senses become noticeable upon the tongue. In other words, the pollutants can be tasted. In the same manner, therefore, the flavor contained in the micro-cells of the present invention is drawn into the body by inhalation and may initially seem to be merely an aroma. However, as inhalation continues, the aroma becomes detectable on the tongue as a taste and, hence, a flavor.

For the purpose of adding the warmth of conventional cigarette smoke, certain of the micro-cells applied to the paper may contain a non-toxic, heat-producing substance or compound which, upon release from the ruptured micro-cell, becomes oxidized and causes heat to be engendered. The successive compression and inhalation sequences cause continuing release and oxidation and, therefore, a continuation of the warmth of the air drawn into the user's mouth.

The invention having been thus disclosed, what is claimed is:

1. In an article providing a simulation of a conventional cigarette, a sheet member comprising a surface having micro-cells secured thereon with synthesized flavor and aroma content sealed within said micro-cells, said sheet member being convoluted into a substantially cylindrical configuration, a wrapper surrounding said convoluted sheet member, and projecting abrasive particles being secured upon a surface of said sheet member to effect the rupture of said micro-cells upon the exertion of compression on the wrapped, convoluted sheet member and the consequent release of the content of said micro-cells.

2. The invention of claim 1, wherein said cylindrical configuration is achieved by spiral rolling of the said sheet member.

3. The invention of claim 1, wherein said micro-cells and abrasive particles respectively, are secured on opposite surfaces of said sheet member.

4. The invention of claim 1, wherein said wrapped, convoluted member is attached in longitudinal continuation to a rod-like body of combustible material, said member and said body having impermeable means disposed therebetween to prevent the passage into said member of smoke from said body when the latter is ignited.

5. The invention of claim 1, wherein the content is synthesized smoke.

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