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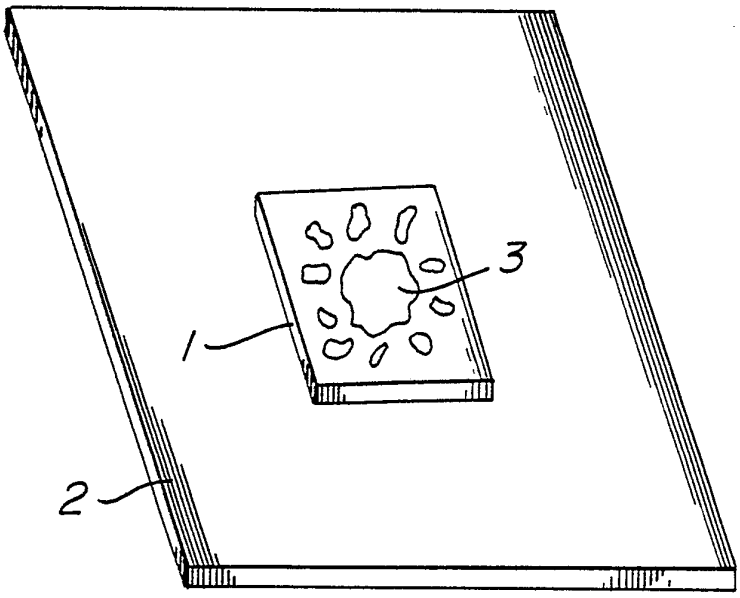
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(71)(72) Applicants and Inventors: ROSEN, David, I. [US/US]; ROSEN, William, E. [US/US]; 2055 Wisteria Lane, Lafayette Hill, PA 19444 (US).

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(54) Title: TRANSDERMAL APPLICATION OF NICOTINE



(57) Abstract

A transdermal application of nicotine is accomplished by the use of a patch having a film (2) with tobacco (1) as a nicotine source. The patch is designed to be wrapped on to the skin. The transdermal application of nicotine diminishes the desire for tobacco.

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TITLE OF INVENTION:

"TRANSDERMAL APPLICATION OF NICOTINE"

BACKGROUND OF THE INVENTION:

This invention relates to tobacco skin patches designed to reduce or eliminate the disadvantages associated with conventional smoking habits using combustible tobacco. The field is patches used in the absorbtion of tobacco nicotine through the skin.

When the nicotine is obtained from tobacco, as by chewing, sniffing, or smoking the substance, the amount of nicotine absorbed into the body generally does not build up to a harmful dose, but produces certain pleasurable effects, frequently leading to habitual use.

One of the most popular versions of nicotine use involves the smoking of tobacco. When the tobacco in a conventional cigarette is ignited, the combustion of the processed tobacco leaves within the cigarette causes the release of vaporous nicotine, which is drawn through the cigarette and into the user's mouth and lungs when the user sucks or inhales air through the tobacco.

The relative mildness of a tobacco cigarette as compared to a pipe or cigar, permits a user to draw the smoke from the burning cigarette directly into the lungs. The nicotine vapors in the tobacco smoke are rapidly assimilated into the bloodstream of the user from the lungs, so that tobacco smoking provides a method by which a user may very quickly feel the effects of the nicotine.

Although nicotine can thus be readily introduced into the body through tobacco smoking, the combustion of the tobacco, with the consequent elevated temperatures required in this process, unfortunately result in a number of undersirable consequences associated with smoking combustible cigarettes. Of primary concern are the serious health hazards known to result from smoking combustible tobacco. Although the nicotine content of tobacco is not believed to cause any serious adverse long term health effects on the human body, many other components which are harmful are present in tobacco smoke. Some of these other constituents are known carcinogens, for example. A table listing some of the harmful components in tobacco smoke may be found on pp. 496-501 of the publication Tobacco and Tobacco Smoke, Studies in Experimental Carcinogenesis (1967) by Ernest L. Wynder and Dietrich Hoffman of the Sloan-Kettering Institute for Cancer Research.

The teaching of that publication is hereby incorporated by reference into this application. Furthermore, the smoking of combustible tobacco may pose a significant fire hazard. Many fires which occurred both within buildings and in natural environments have been attributable to burning cigarettes which were carelessly discarded. In addition, substantial economic losses can be attributed to smoking, including significant damage to business and personal property resulting from burns in clothing, carpeting, furniture, etc. caused by stray ashes from cigarettes. Tobacco smoking has also become increasingly objectionable because of the discomfort it may cause to non-smokers who are exposed to the smoke and odor produced by the smoking habit.

Because of these undesirable side effects of combustible tobacco smoking, attempts have been made from time to time to provide an acceptable substitute for combustible tobacco smoking which will eliminate or ameliorate the adverse consequences mentioned above. Tobacco concentrates, for example, have been processed into a tablet form which may be sucked or chewed in the mouth of the user, the nicotine being absorbed into the user's body through the lining of the mouth.

In another approach to providing a substitute for tobacco, it has been recognized that processed tobacco, such as that contained in cigarettes, will release vapors when it is heated to a temperature lower than the ignition point of the tobacco. Thus, a smoker might draw air through such heated tobacco and thereby obtain the vapors which are released in conventional smoking without also inhaling the noxious by-products of tobacco combustion. Devices manufactured according to this technique, however, have sometimes used a second isolated portion of tobacco, which is ignited, as the sources of heat. Although such a device is chambered so that the products of combustion are not directly inhaled by the user in the act of drawing air through such a device, the harmful by-products of combustion are nevertheless released into the air surrounding the user. Thus, substantial amounts of the deleterious combustion by-products may nevertheless be inhaled by the user and surrounding persons through breathing the ambient air. In addition, with such a substitute device, substantially the same fire hazards are presented as with conventional smoking devices, and there remains the potential for burn damage to carpets, furniture, clothing, etc. Alternatively, the tobacco in this method may be heated by various pyrophorous materials, which are

mixed together with the tobacco. Such materials react with oxygen, alcohol, water, etc. and thereby produce sufficient heat to cause the tobacco to release vapors. With this technique, however, any by-products of the combustion reaction, which occurs within the tobacco mix, will also tend to be inhaled through the device by the user. Thus, there is the danger of adverse health consequences resulting whenever any of these by-products are toxic or otherwise harmful. Furthermore, the structure of such devices tend to be unduly complex, resulting in a relatively high manufacturing cost.

Various other smoking substitutes have been developed which include cigarette simulating devices containing various materials which approximate the taste and aroma of tobacco or release various other additional aromatic vapors which are intended to have a satisfying effect on the user when those vapors are inhaled. In one such device, synthetic materials simulating the taste and aroma of tobacco are micro-encapsulated within a cigarette device. The desired vapors are released by squeezing or crushing the device.

DESCRIPTION OF INVENTION:

A tobacco nicotine product containing one or all sufficient quantity of finely powdered cigar, cigarette, chew snuff and leaf tobacco which can be mixed into a slurry and made into reconstituted tobacco sheet or made as a reconstituted tobacco sheet on a standard paper making machine (fortenier). Cut into size of any reasonable dimension.

Glycerin, alcohol or water separately or mixed are applied to skin and/or product then the patch of tobacco is placed on same area of skin. Cover patch of tobacco with any plastic film or any product that holds in body heat. When body heat builds under plastic film, nicotine vapors are absorbed into the user's body, which give them the stimulation of tobacco without lighting up. This invention can also be applied with fine ground tobaccos being added to creams, oil, alcohol, propylene glycol-glycerin, water, gelatin, gura gum, or a solid piece and applied to the skin wrapped or not wrapped or covered by any material; in any form or solid. Any type of tobacco, cigar, cigarette, chew, leaf, and snuff can be added to product from 1% tobacco to 100% tobacco, in any form including leaf. This invention is used so a person wanting to stop smoking combustible tobacco can place a patch of uncombustible tobacco on the skin to get the sensation of nicotine from smoking without lighting up.

The advantages are that the tobacco patch is a simple method for nicotine replacement. It is medically acknowledged that the tar and gases such as carbon monoxide, oxides of nitrogen, and many other toxic combustion products are the principal culprits that cause smoking-related cancer, bronchitis and possibly heart disease. Simple nicotine replacement by other means would seem a logical and straightforward method to "kick the habit."

DESCRIPTION OF DRAWING:

Figure 1 shows my tobacco patch invention having a tobacco sheet patch (1), film (2) and glycerin, alcohol or water separately or mixed (3).

SUMMARY:

This invention is a patch having tobacco designed to be wrapped on to the skin and releasing tobacco nicotine through skin temperature. The patch of tobacco is a sheet made from one or all of finely powdered cigar, cigarette, chew snuff and leaf tobacco. A plastic film or any product which holds in body heat covers the tobacco patch when applied to the skin.

CLAIMS:

#1 A tobacco nicotine patch intended to be applied to the skin having (a) a patch of tobacco (b) a covering product where (c) the tobacco patch has been dampened with a buffer.

#2 The tobacco nicotine patch of claim #1 where the buffer is alkiline.

#3 The tobacco nicotine patch of claim #1 where the buffer is acidic.

#4 The tobacco nicotine patch of claim #1 where the patch of tobacco has among the constituents a acidic tobacco.

#5 The tobacco nicotine patch of claim #1 where the patch of tobacco has among its constituents an Alkiline tobacco.

#6 The tobacco nicotine patch of claim #1 where the covering product is capable of holding in heat.

#7 The tobacco nicotine patch of claim #1 where the covering product is any plastic film.

#8 The tobacco nicotine patch of claim #1 where the patch of tobacco is a reconstituted tobacco sheet cut to a size of reasonable dimension.

#9 The tobacco nicotine patch of claim #8 where the reconstituted tobacco sheet is made from a slurry containing one or all of finely powdered cigar, cigarette, chew, snuff and leaf tobacco.

#10 The tobacco nicotine patch of claim #9 where the reconstituted tobacco sheet is fine ground and mixed with any one of creams, oil, alcohol, propylene, glycol, glycerin, water, gelatin, gura gum.

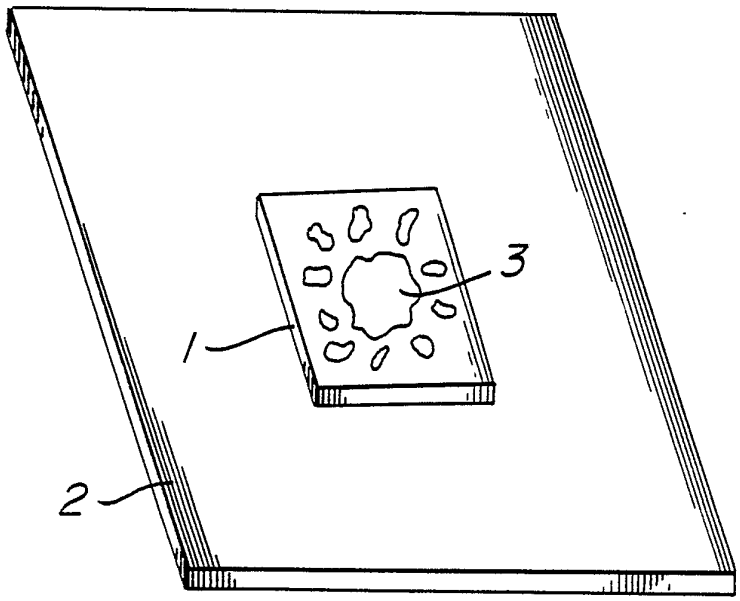
#11 The tobacco nicotine patch of claim #10 where the mixture is from 1% to 99% of the fine ground tobacco.

#12 A method of diet aid and smoking reduction being (a) applying a patch of tobacco to the skin where (b) this tobacco patch or the skin has been first dampened with glycerin, alcohol, or water separately or mixed and (c) a covering over the tobacco patch when on the skin to hold in body heat.

#13 The method of claim #12 where the tobacco patch contains any of finely powdered cigar, cigarette, chew, snuff, leaf tobacco.

#14 The method of claim #13 where the tobacco patch is fine ground and mixed with any of creams, oil, alcohol, propylene glycol, glycerin, water, gelatin, and gura gum.

#15 The method of claim #14 where holding in heat permits tobacco nicotine vapors to the absorbed into the skin.


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INTERNATIONAL SEARCH REPORT

International Application No PCT/US86/02445

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [3]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC (4) A24F 47/00; A61M 7/00
U.S. Cl. 131/270; 604/897

II. FIELDS SEARCHED

Minimum Documentation Searched [4]

Classification System	Classification Symbols
U.S.	131/270; 604/896,897,289,290,304,307

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched [5]

III. DOCUMENTS CONSIDERED TO BE RELEVANT [14]

Category *	Citation of Document, [16] with indication, where appropriate, of the relevant passages [17]	Relevant to Claim No. [18]
P,Y	US, A, 4,579,858 (FERNO ET AL) 01 April 1986 This document teaches the pulse delivery of nicotine to the body so as to diminish thedesire to smoke. (see Abstract).	5-19
Y	CA, A, 930,668 (ZAFFARONI) 24 July 1973 See page 3, lines 9-26. This document teaches the advantage of a dermal patch delivery system over a pulse delivery system. Also note page 10, lines 3-24 and page 16, lines 9-14.	5-19
Y	US, Von Euler, "Tobacco Alkaloids and Related Compounds", published 1965 by the MacMillan Company (New York), see pages 3-13, especially page 4. Euler teaches tobacco as a nicotine source for dermal application.	5-19
Y	Pharmacology and Toxicology, No. 85-0355 (ROSE, J.E. et al) "Transdermal Administration of Nicotine". Drug and Alcohol Dependence 13(3):209-213, May 1984.	5-19

* Special categories of cited documents: [15]

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"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search [2]

13 January 1987

Date of Mailing of this International Search Report [2]

10 FEB 1987

International Searching Authority [1]

ISA/US

Signature of Authorized Officer [20]

Vincent Millin