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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A24F 47/00

A2

(11) International Publication Number: WO 96/32854

(43) International Publication Date: 24 October 1996 (24.10.96)

(21) International Application Number: PCT/US96/05417

(22) International Filing Date: 19 April 1996 (19.04.96)

(30) Priority Data:

08/425,166	20 April 1995 (20.04.95)	US
08/425,837	20 April 1995 (20.04.95)	US
08/426,165	20 April 1995 (20.04.95)	US

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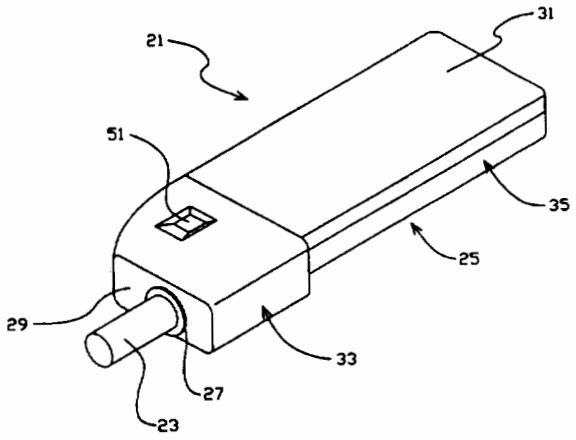
(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published

Without international search report and to be republished upon receipt of that report.

(54) Title: CIGARETTE AND HEATER FOR USE IN AN ELECTRICAL SMOKING SYSTEM



(57) Abstract

A cigarette (23) comprises a tobacco rod having filled and unfilled portions arranged so that electrical heater elements (31) may overlap both portions. The rod includes a tubular tobacco web. The web is constructed by converting tobacco feedstock into a continuous sheet of tobacco web and converting the continuous sheet of tobacco web into one or ore bobbins of tobacco web suitable for automated manufacture of cigarettes. A heater (25) comprises a supporting hub and electrically resistive heater blades (37) defining a receptacle (27) for an inserted cigarette (23). Each blade comprises first and second heater blade legs each having a first end and a second end, and a connecting section connecting the second end of the first leg and the first end of the second leg. The blades (37) are heated by a resistive heating circuit and heat the inserted cigarette (23). The legs are separated by a gap to permit entrainment of flavour substances upon drawing.

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CIGARETTE AND HEATER FOR USE IN AN ELECTRICAL SMOKING SYSTEM

Field of Invention

The present invention relates generally to electrical smoking systems, and in particular to cigarettes adapted to cooperate with electrical lighters of electrical smoking systems, and to a heater for use in elctrical smoking systems.

Background of the Invention

Traditional cigarettes deliver flavor and aroma to the smoker as a result of combustion, during which a mass of combustible material, principally tobacco, is combusted at temperatures which often exceeds 800° C during a puff. Heat is drawn through an adjacent mass of tobacco by drawing on the mouth end. During heating, inefficient oxidation of the combustible material releases various gaseous combustion products and distillates from the tobacco. As these gaseous products are drawn through the cigarette, they cool and condense to form an aerosol which provides the tastes and aromas associated with smoking.

Traditional cigarettes have various perceived drawbacks associated with them. One of these is the production of sidestream smoke during smoldering between puffs which may be objectionable to non-smokers. Once lit, they must be fully consumed or be discarded. Re-lighting a traditional cigarette is possible but is usually an unattractive proposition to a discerning smoker for subjective reasons (flavor, taste, odor).

An alternative to the more traditional cigarettes includes those in which the combustible material itself does not itself release the tobacco aerosol. Such smoking articles may comprise a combustible, carbonaceous heating element (heat source) located at or about one end of the smoking article and a bed of tobacco-laden elements located adjacent the aforementioned heating element. The heating element is ignited with a match or cigarette lighter, and when a smoker draws upon the cigarette, heat generated by the heating element is communicated to the bed of tobacco-laden elements so as to cause the bed to release a tobacco aerosol. While this type of smoking device produces little or no sidestream smoke, it still generates products of combustion at the heat source, and once its heat source is ignited, it is not readily snuffed for future use in a practical sense.

In both the more conventional and carbon heated devices described above, combustion takes place during their use. This process naturally gives rise to many by-products

as the combusted material breaks down and interacts with the surrounding atmosphere.

Copending and commonly assigned, U.S. patent applications Serial No. 08/380,718, filed September 30, 1995 (PM 1697 Cont) and Serial No. 07/943,504, filed September 11, 1992 (PM 1550) together with US patents 5,093,894, 5,225,498, 5,060,671 and 5,095,921 disclose various heating elements and flavor generating articles which significantly reduce sidestream smoke while permitting the smoker to selectively suspend and reinitiate smoking. However the cigarette articles disclosed in these patents are not very durable and may collapse, tear or break from extended or heavy handling. In certain circumstances, these prior cigarettes may crush as they are even weaker and may tear or break as they are removed from the lighter.

The aforementioned, United States patent application Serial No. 08/380,718 (PM 1697 Cont) and US 5,388,594 describe an electrical smoking system including a novel electrically powered lighter and a novel cigarette that cooperates with the lighter. The preferred embodiment of the lighter includes a plurality of metallic serpentine heaters disposed in a configuration that slidingly receives a tobacco rod portion of the cigarette.

The preferred embodiment of the cigarette in Serial No. 08/380,718 (PM 1697 Cont) and also disclosed in EP-A-0,615,411 comprises a tobacco-laden tubular carrier, a cigarette paper overwrapped about the tubular carrier, an

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