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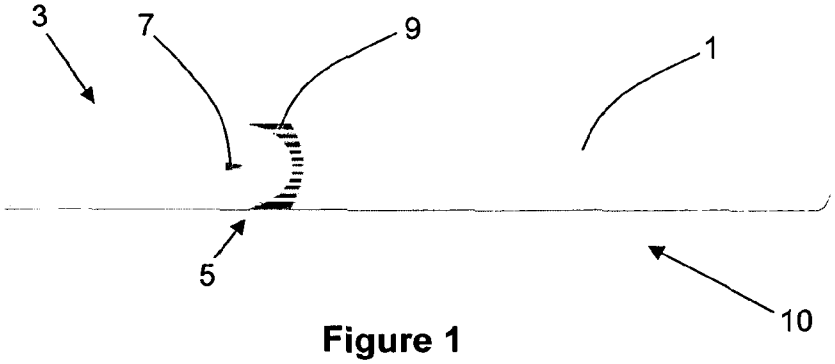

Figure 1

(57) Abstract: A filter cigarette (10, 20, 30) with variable ventilation comprising: a rod (1) of smokable material; a mouthpiece (3) comprising an element (34) rotatable relative to the rest of filter cigarette about the longitudinal axis thereof to vary the ventilation of the filter cigarette; and a ventilation indicator (5) comprising a scale (9) extending circumferentially about the periphery of the filter cigarette and a cursor (7). The scale is symmetric about the longitudinal axis of the filter cigarette and the cursor and the scale are rotatable relative to one another about the longitudinal axis of the filter cigarette, one of the cursor and the scale rotating with the rotatable element of the mouthpiece, the level of ventilation being indicated by the longitudinal distance between the cursor and a longitudinally aligned point on the scale.

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FILTER CIGARETTE WITH VARIABLE VENTILATION

The present invention relates to a smoking article with variable ventilation and in particular to a filter cigarette with variable ventilation.

Filter cigarettes typically comprise a cylindrical rod of tobacco cut filler surrounded by a paper wrapper and a cylindrical filter axially aligned in an abutting end-to-end relationship with the wrapped tobacco rod. Conventionally, the wrapped tobacco rod and the filter are joined by a band of tipping paper that circumscribes the entire length of the filter and an adjacent portion of the wrapped tobacco rod. The tipping paper may be provided with one or more circumferential rows of perforations at a location along the filter in order to ventilate mainstream tobacco smoke produced during combustion of the wrapped tobacco rod with ambient air. Filter cigarettes having mechanisms for varying the level of ventilation obtained during smoking, which enable a consumer to vary the ratio of ambient air to mainstream smoke delivered to their mouth, are also known.

For example, US-A-4,570,649 discloses a variable dilution filter cigarette comprising a substantially cylindrical tobacco rod, a substantially cylindrical filter plug, a plug wrap circumscribing the filter plug and a tipping paper circumscribing the plug wrap and a portion of the tobacco rod. At least one of the plug wrap and the tipping paper is air impermeable. The plug wrap is divided into a mouth-end band, a central band and a rod-end band having a first opening therein. The mouth-end and rod-end bands are fixed to the filter, while the central band is rotatable about the longitudinal axis of the filter plug. The tipping paper is divided into a first band and a second band. The first band of the tipping paper extends from the mouth end of the filter plug to a position overlying the rod-end band of the plug wrap and is attached only to the central band of the plug wrap for rotation therewith about the longitudinal axis of the filter plug. The first band of the tipping paper has a second opening therein overlying the rod-end band of the plug wrap such that rotation of the first band rotates the second opening into varying degrees of registry with the first opening in the rod-end band thereby varying the level of dilution obtained during smoking. The second band of the tipping paper extends from the first band to a position on the tobacco rod and joins the tobacco rod to the filter plug.

US-A-3,519,000 discloses a vented cigarette holder with an air-to-smoke ratio control valve comprising a valve body and a valve stem attached to a valve head. The valve body is rotatable relative to the valve stem to alter the degree in which smoke from a cigarette in the holder and ambient air are mixed in a mixing chamber formed in the valve head. An index marker on the outer surface of the valve stem serves as a reference mark for use with graduation marks formed on the surface of the valve body to indicate the magnitude of the air-to-smoke ratio experienced at different relative rotational positions of the valve stem and valve

body. The graduation marks are not symmetrical about the longitudinal axis of the cigarette holder. Clockwise rotation of the valve head relative to the valve body results in closure of a smoke inlet and opening of an air inlet, and so increases the air-to-smoke ratio, while counterclockwise rotation of the valve head relative to the valve body results in opening of the smoke inlet and closing of the air inlet, and so decreases the air-to-smoke ratio. At the extremities of valve head rotation, the respective one of the inlet openings is completely closed and the other is completely open.

Filter cigarettes with other mechanisms for varying the level of ventilation obtained during smoking are also known.

FR-A5-2 273 443 discloses a cigarette with variable filtration comprising a first filter plug adjacent the cigarette and a buccal filter plug separated from the first filter plug by a cavity with a flexible tubular wall. The buccal filter plug is rotatable relative to the first filter plug about the longitudinal axis of the filter to progressively reduce the section of the cavity, which forms a helical corridor, and thereby increase the level of filtration; rotation of the buccal filter plug relative to the first filter plug does not vary the level of ventilation of the cigarette. To allow a user to directly select a preferred level of filtration, a graduated scale is provided on the exterior of the first filter plug and a cursor is provided on the exterior of the buccal filter plug.

It would be desirable to provide a filter cigarette with variable ventilation having means to enable a consumer to more simply and easily select a desired level of ventilation.

According to the present invention there is provided a filter cigarette with variable ventilation comprising: a rod of smokable material; a mouthpiece attached to the rod of smokable material, the mouthpiece comprising an element rotatable relative to the rest of filter cigarette about the longitudinal axis thereof to vary the level of ventilation obtained during smoking of the filter cigarette; and a ventilation indicator comprising a scale extending circumferentially about the periphery of the filter cigarette and a cursor. The scale is symmetric about the longitudinal axis of the filter cigarette and the cursor and the scale are rotatable relative to one another about the longitudinal axis of the filter cigarette, one of the cursor and the scale rotating with the rotatable element of the mouthpiece, the level of ventilation being visually indicated by the longitudinal distance between the cursor and a longitudinally aligned point on the scale.

Preferably, the rotatable element of the mouthpiece is rotatable relative to the rest of filter cigarette about the longitudinal axis thereof between a high ventilation position and a low ventilation position. Preferably, the filter cigarette is initially provided to a consumer with the rotatable element of the mouthpiece in the high ventilation position or the low ventilation position.

Throughout the specification, the terms "high ventilation" and "low ventilation" are used to indicate the level of air admitted to the mouthpiece of the filter cigarette during smoking and the resultant air dilution of the mainstream smoke obtained. The greater the level of ventilation, the greater the air dilution of the mainstream smoke.

Allowing a consumer to vary the level of ventilation obtained during smoking of filter cigarettes according to the invention through rotation of the rotatable element of the mouthpiece thereof advantageously enables the consumer to alter the taste or flavor of the filter cigarettes.

The cursor and scale of the ventilation indicator provide a visual indication to a consumer of the level of ventilation obtained during smoking and thereby advantageously enable a consumer to simply and easily select a desired level of ventilation either prior to or during smoking of filter cigarettes according to the invention.

The scale of the ventilation indicator may extend around substantially the entire circumference of the filter cigarette. Alternatively, the scale may extend around only a portion of the circumference of the filter cigarette.

The scale may comprise a continuous line at an acute angle to the longitudinal axis of the filter cigarette. For example, the ventilation indicator may comprise a logo, shape or symbol that includes a continuous line at an acute angle to the longitudinal axis of the filter cigarette that forms part or all of the scale.

Alternatively or in addition, the scale may comprise a plurality of circumferentially spaced apart markers of the same or different colour, shape and size. For example, the scale may comprise a plurality of circumferentially spaced apart lines, bars, circles, squares, numbers or other shapes or symbols or any combination thereof.

The scale may comprise a plurality of circumferentially spaced apart markers of different length. For example, the scale may comprise a plurality of circumferentially spaced apart longitudinally extending lines or bars of different length.

Alternatively or in addition, the scale may comprise a plurality of circumferentially spaced apart markers of the same length that are longitudinally offset relative to one another. For example, the scale may comprise a plurality of circumferentially spaced apart longitudinally extending lines or bars of the same length that are longitudinally offset relative to one another.

The cursor of the ventilation indicator may be any suitable pointer. For example, the cursor may comprise a triangle, dot or longitudinally extending line, bar or arrow.

The ventilation indicator may further comprise one or more of direction signs (for example, chevrons or arrows), symbols (for example, '-' and '+' symbols) or words (for example, 'min' and 'max') to indicate the direction in which the rotatable element of the mouthpiece should be rotated by a consumer in order to increase or decrease the level of ventilation obtained during smoking of the filter cigarette.

Alternatively or in addition, the colour of the scale may vary or the shade of the scale may be graded in the transverse direction of the filter cigarette in order to provide a further visual indication of the level of ventilation obtained during smoking.

The ventilation indicator may comprise a tactile cursor and a tactile scale. This advantageously enables a consumer to select a desired level of ventilation by touch instead of or in addition to by sight and so facilitates selection of a desired ventilation level in low light conditions and during smoking.

The cursor and the scale of the ventilation indicator may be raised radially outward of the rest of the filter cigarette or inset radially inward of the rest of the filter cigarette. Alternatively or in addition, one or both of the cursor and the scale of the ventilation indicator may have a different surface texture to the rest of the filter cigarette

The cursor and the scale of the ventilation indicator may be formed in any suitable known manner. For example, the cursor and the scale may be: formed by embossing or debossing; adhered or otherwise affixed to the outer surface of the filter cigarette; printed on the outer surface of the filter cigarette; or any combination thereof.

Filter cigarettes according to the invention may be or the same or similar construction as known filter cigarettes with variable ventilation that include a mouthpiece comprising an element rotatable relative to the rest of filter cigarette about the longitudinal axis thereof to vary the level of ventilation obtained during smoking.

For example, filter cigarettes according to the invention may be of the same or similar construction as the variable dilution filter cigarettes described in US-A-4,570,649.

Filter cigarettes with variable ventilation according to the invention preferably comprise a mouthpiece including a filter. Preferably, the filter comprises a filter plug circumscribed by a filter wrapper.

Preferably the rod of smokable material is a rod of tobacco cut filler.

A filter cigarette with variable ventilation according to one embodiment of the invention comprises a mouthpiece including a filter comprising a filter plug circumscribed by a filter wrapper, wherein the filter wrapper comprises a mouth-end band, a central band and a rod-end band, the rod-end band and the mouth-end band being affixed to the filter and the central band being rotatable about the longitudinal axis of the filter cigarette. In this embodiment, the filter cigarette further comprises a band of tipping paper circumscribing the filter and an adjacent portion of the rod, the band of tipping paper comprising a first band extending from the mouth end of the filter to a position overlying the rod-end band of the filter wrapper and a second band extending from the first band to a position overlying the rod, the first band being affixed only to the central band for rotation therewith, wherein one of the cursor and the scale of the ventilation

indicator is provided on the outer surface of the first band of tipping paper and the other of the cursor and the scale of the ventilation indicator is provided on the second band of tipping paper.

Preferably, at least one of the filter wrapper and the tipping paper is substantially air-impermeable and the rod-end band of the filter wrapper has at least one opening therein and the first band of tipping paper has at least one opening therein positioned such that rotation of the first band of tipping paper about the longitudinal axis of the filter cigarette rotates the at least one opening in the first band of tipping paper into varying degrees of registry with the at least one opening in the rod-end band of the filter wrapper thereby varying the level of ventilation obtained during smoking of the filter cigarette.

A filter cigarette with variable ventilation according to an alternative embodiment of the invention also comprises a mouthpiece including a filter comprising a filter plug circumscribed by a filter wrapper. However, in this embodiment the filter cigarette further comprises: a rod end band of tipping paper attaching the rod to the filter; a mouth end band of tipping paper; and a sleeve disposed between the rod end and mouth end bands of tipping paper, wherein the sleeve overlies a portion of the filter wrapper and is rotatable relative thereto about the longitudinal axis of the filter cigarette and wherein one of the cursor and the scale is provided on the outer surface of the sleeve and the other of the cursor and the scale is provided on the rod end band of tipping paper or the mouth end band of tipping paper. Preferably, one of the cursor and the scale is provided on the outer surface of the sleeve and the other of the cursor and the scale is provided on the rod end band of tipping paper.

Preferably at least one of the sleeve and the filter wrapper is substantially air-impermeable and the sleeve includes at least one opening therein and the portion of the filter wrapper underlying the sleeve preferably includes at least one opening therein, such that rotation of the sleeve about the longitudinal axis of the filter cigarette rotates the at least one opening in the sleeve into varying degrees of registry with the at least one opening in the filter wrapper thereby varying the level of ventilation obtained during smoking.

Filter cigarettes according to the invention may comprise mouthpieces including filters comprising any suitable known filtration materials including, but not limited to, cellulose acetate tow (optionally including activated carbon on the tow), crepe paper and activated carbon.

Filter cigarettes according to the invention may also comprise mouthpieces including filters comprising flavour-bearing material such as, for example, plant material, breakable capsules containing flavourants, flavour-bearing granules or other materials loaded with flavour.

Filter cigarettes according to the invention may comprise mouthpieces including multi-segment filters. For example, filter cigarettes according to the invention may comprise mouthpieces including up to four filter segments or up to three filter segments and a recess at the mouth end thereof.

Filter cigarettes according to the invention preferably have an overall length of between about 70 mm and about 128 mm.

Filter cigarettes according to the invention may comprise mouthpieces having an overall length of, for example, between about 24 mm and about 48 mm and a diameter of, for example, between about 5 mm and about 8.5 mm.

The invention will be further described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 shows a perspective view of a filter cigarette with variable ventilation according to a first embodiment of the invention;

Figure 2 shows a plan view of a filter cigarette with variable ventilation according to a second embodiment of the invention;

Figure 3 shows a perspective view of a filter cigarette with variable ventilation according to a third embodiment of the invention; and

Figures 4 and 5 show schematic side views of the filter cigarette with variable ventilation according to the third embodiment of the invention shown in Figure 3 in a high and low ventilation position, respectively.

The filter cigarettes, shown in Figures 1 to 5 have several components in common and these components have been given the same reference numerals.

Referring to Figure 1, the filter cigarette 10 with variable ventilation according to the first embodiment of the invention generally comprises an elongate, cylindrical wrapped rod 1 of smokable material attached at one end to an axially aligned, elongate, cylindrical, mouthpiece 3.

The mouthpiece 3 comprises an element (not shown) which is rotatable about a longitudinal axis of the filter cigarette 10. As will be explained in further detail below with reference to the filter cigarette with variable ventilation according to the third embodiment of the invention shown in Figures 3 to 5, the rotatable element of the mouthpiece 3 is rotatable relative to the rest of the filter cigarette 10 to vary the ventilation of the filter cigarette 10 obtained during smoking thereof.

The filter cigarette 10 also includes a ventilation indicator or gauge 5 which allows a consumer to select the level of ventilation of the cigarette obtained during smoking and hence the flavour delivered to the consumer. The ventilation indicator 5 comprises a triangular cursor 7 and a scale 9. The triangular cursor 7 is located on the exterior of the rotatable element of the mouthpiece 3. However, it will be appreciated that alternative configurations in which the scale 9 is located on the exterior of the rotatable element mouthpiece 3 are also possible.

The scale 9 comprises a plurality of circumferentially spaced apart bars of different length which extend substantially parallel to the longitudinal axis of the filter cigarette 10. In use, the position of the triangular cursor 7 along the scale 9 indicates the degree of rotation of

the rotatable element of the mouthpiece 3 relative to the rest of the filter cigarette 10 and hence the level of ventilation that will be obtained during smoking of the filter cigarette 10, the level of ventilation being indicated by the longitudinal distance between the triangular cursor 7 and the longitudinally aligned point on the scale 9.

As previously described, the triangular cursor 7 and the scale 9 may be tactile to enable the consumer to select a desired level of ventilation by touch as well as or in addition to by sight.

The scale 9 is symmetrical about the longitudinal axis of the filter cigarette 10. In the embodiment shown, the bar at the centre of the scale 9 is shortest and the bars at the extremities of the scale are longest. This indicates that the consumer may rotate the rotatable element of the mouthpiece 3 and the triangular cursor 7 either clockwise or anticlockwise to obtain the same ventilation level. The consumer may select a desired level of ventilation by rotating the rotatable element of the mouthpiece 3 relative to the rest of the filter cigarette 10 such that the triangular cursor 7 is longitudinally aligned with a particular bar of the scale 9.

In the embodiment shown in Figure 1, when the triangular cursor 7 is aligned with the shortest bar of the scale 9, the longitudinal distance between the triangular cursor 7 and the longitudinally aligned point on the scale 9 is at a maximum indicating a high level of ventilation. When the rotatable element of the mouthpiece 3 is rotated such that the triangular cursor 7 is aligned with one of the longest bars of the scale 9, the longitudinal distance between the triangular cursor 7 and the longitudinally aligned point on the scale 9 is at a minimum indicating a low level of ventilation.

It will be appreciated that filter cigarettes according to the invention may alternatively comprise ventilation indicators with cursors and scales wherein a minimum longitudinal distance between the cursor and a longitudinally aligned point on the scale indicates a low level of ventilation and a maximum longitudinal distance between the cursor and a longitudinally aligned point on the scale indicates a high level of ventilation.

It will also be appreciated that filter cigarettes according to the invention may comprise ventilation indicators with cursors and scales wherein alignment of the cursor with a point at the centre of the scale indicates a low level of ventilation and alignment of the cursor with points at the extremities of the scale indicates a high level of ventilation.

The ventilation indicator 5 of the filter cigarette 20 according to the second embodiment of the invention shown in Figure 2 is largely identical to the filter cigarette 10 according to the first embodiment of the invention but comprises a triangular cursor 7 and a scale 9 symmetrical about the longitudinal axis of the filter cigarette 10 comprising a logo having a v-shaped edge proximate to the cursor.

Figure 3 shows a filter cigarette 30 according to a third embodiment of the invention having one suitable mechanism for varying the level of ventilation obtained during smoking.

The mouthpiece 3 of the filter cigarette 30 of this embodiment comprises a single segment filter 31 adjacent to and abutting a wrapped tobacco rod 1.

The filter segment 31 may be 27 mm in length and composed of a high efficiency cellulose acetate plug, which is circumscribed along its entire length by an air impermeable filter wrapper 33. The wrapper 33 includes a pair of opposed, elongate openings 35 which are positioned approximately 15 mm from the mouth end of the filter and each extend approximately 90 degrees circumferentially around the filter. In figure 3, only one of the elongate openings can be seen, and in fact only a single elongate opening 35 is required.

The wrapped tobacco rod 1 and the filter segment 31 are joined by a rod end band of tipping paper 37, which is 10 mm in length and circumscribes a portion of the filter segment 31 and an adjacent portion of the wrapped tobacco rod 1. A mouth end band of tipping paper 32 circumscribes the filter segment 31 at the mouth end thereof and may a length of 12 mm. Both the rod end 37 and mouth end 32 bands are fixed in place by means of an adhesive.

Between the rod end 37 and mouth end 32 bands of tipping paper is sleeve 34 of tipping paper which circumscribes the filter and abuts both the rod end 37 and mouth end 32 bands. The sleeve 34, which is the rotatable element of the mouthpiece in this embodiment, is not adhered to the filter wrapper and so is freely rotatable about the longitudinal axis of the filter cigarette 30. The rod end 37 and mouth end 32 bands act as stops to prevent any axial movement of the sleeve 34. The sleeve 34 may be 12 mm in length and includes a pair of opposed, elongate openings 39 which are positioned approximately 15 mm from the mouth end of the filter and each extend approximately 90 degrees circumferentially around the filter. In figure 3, only one of the elongate openings can be seen, and in fact only a single elongate opening 39 is required.

As shown in Figures 4 and 5, the annular position of the sleeve 39 relative to the underlying filter wrapper 33 may be altered in order to change the level of ventilation and therefore the level of air dilution to the mainstream smoke which is obtained during smoking of the filter cigarette 30. This is achieved by selecting the degree of alignment of the openings 35 in the filter wrapper and the openings 39 in the sleeve 34.

Figure 4 shows the filter cigarette 30 in a high ventilation "open" position, in which the sleeve 34 is rotated to a position in which the openings 39 therein are fully aligned with the openings 35 in the underlying filter wrapper 33. In this "open" position, the openings 35 in the filter wrapper 33 are fully uncovered. During smoking of the filter cigarette 30 in the "open" position, a high level of air dilution of the mainstream smoke is therefore obtained.

Figure 5 shows the filter cigarette 30 in a low ventilation "closed" position, in which the sleeve 34 is rotated to a position in which the openings 35 in the filter wrapper 33 are completely covered by the sleeve 34. In this "closed" position, the openings in the air impermeable filter wrapper 33 are substantially sealed by the sleeve. During smoking of the cigarette 30 in the "closed" position, a low level of air dilution of the mainstream smoke is therefore obtained.

In the "open" position, the level of air dilution of the mainstream smoke is high as a result of a high level of ventilation and conversely, in the "closed" position, the level of air dilution of the mainstream smoke is low as a result of a low level of ventilation. Thus, the ventilation obtained is effectively varied through rotation of the sleeve.

The filter cigarette 30 further comprises a ventilation indicator 5 (not shown) comprising a cursor 7 and a scale 9 like those shown in Figures 1 and 2, one of the cursor 7 and the scale 9 being located on the exterior of the sleeve 34 and the other of the cursor 7 and the scale 9 being located on either the rod end band 37 of tipping paper or the mouth end band 32 of tipping paper.

To form the variable ventilation filter cigarette 30 according to the third embodiment of the invention, the wrapped filter segment 31 and wrapped tobacco rod 1 may be produced in a conventional manner. A pre-perforated sheet of tipping paper is used to provide the rod end 37 and mouth end 32 bands and the sleeve 34. The layer of tipping paper includes a first row of perforations 10 mm from one end, which must be broken to form the mouth end band, and a second row of perforations 12 mm from the first row, which must be broken to separate the central and rod end bands. A double length of tipping paper may be used if preferred, as in conventional manufacturing processes. One or more specially shaped guides are incorporated into the conventional cigarette making equipment in order to break the lines of perforation in the tipping paper and ensure that they are glued in the correct position on the cigarette. Additional cutting knives may also be incorporated to cut one or more of the lines of perforation. All of the lines of perforation are broken during the manufacturing process, at the same or different stages, to ensure that the cigarette is provided to the consumer ready for use, with the sleeve already able to rotate freely and easily around the filter. The openings in the filter wrapper and the sleeve are made simultaneously using a laser, once the filter cigarette has been assembled.

CLAIMS

1. A filter cigarette (10, 20, 30) with variable ventilation comprising:

a rod (1) of smokable material;

a mouthpiece (3) attached to the rod of smokable material, the mouthpiece comprising an element (34) rotatable relative to the rest of filter cigarette about the longitudinal axis thereof to vary the ventilation of the filter cigarette; and

a ventilation indicator (5) comprising a scale (9) extending circumferentially about the periphery of the filter cigarette and a cursor (7),

wherein the scale is symmetric about the longitudinal axis of the filter cigarette and the cursor and the scale are rotatable relative to one another about the longitudinal axis of the filter cigarette, one of the cursor and the scale rotating with the rotatable element, the level of ventilation being indicated by the longitudinal distance between the cursor and a longitudinally aligned point on the scale.

2. A smoking according to claim 1 wherein the scale comprises a line at an acute angle to the longitudinal axis of the filter cigarette.

3. A filter cigarette according to claim 2 wherein the line is a continuous line.

4. A filter cigarette according to claim 1 wherein the scale comprises a plurality of circumferentially spaced apart markers.

5. A filter cigarette according to claim 4 wherein the markers are longitudinally offset relative to one another.

6. A filter cigarette according to claim 4 or 5 wherein the markers are of different length in the longitudinal direction of the filter cigarette.

7. A filter cigarette according to claim 6 wherein the markers are longitudinally extending lines of bars.

8. A filter cigarette according to any preceding claim wherein the ventilation indicator comprises a tactile cursor and a tactile scale.

9. A filter cigarette according to any preceding claim wherein the mouthpiece includes a filter comprising a filter plug circumscribed by a filter wrapper.

10. A filter cigarette according to claim 9, the filter cigarette wherein the filter wrapper comprises a mouth-end band, a central band and a rod-end band, the rod-end band and the mouth-end band being affixed to the filter and the central band being rotatable about the longitudinal axis of the filter cigarette, the filter cigarette further comprising:

a band of tipping paper circumscribing the filter and an adjacent portion of the rod, the band of tipping paper comprising a first band extending from the mouth end of the filter to a position overlying the rod-end band of the filter wrapper and a second band extending from the first band to a position overlying the rod, the first band being affixed only to the central band for rotation therewith,

wherein one of the cursor and the scale of the ventilation indicator is provided on the outer surface of the first band of tipping paper and the other of the cursor and the scale of the ventilation indicator is provided on the second band of tipping paper.

11. A filter cigarette according to claim 10 wherein at least one of the filter wrapper and the tipping paper is substantially air-impermeable and the rod-end band of the filter wrapper has at least one opening therein and the first band of tipping paper has at least one opening therein positioned such that rotation of the first band of tipping paper about the longitudinal axis of the filter cigarette rotates the at least one opening in the first band of tipping paper into varying degrees of registry with the at least one opening in the rod-end band of the filter wrapper thereby varying the level of ventilation obtained during smoking.

12. A filter cigarette (30) according to claim 9 further comprising:

a rod end band (37) of tipping paper attaching the rod to the filter;

a mouth end band (32) of tipping paper; and

a sleeve (34) disposed between the rod end and mouth end bands of tipping paper,

wherein the sleeve overlies a portion of the filter wrapper (33) and is rotatable relative thereto about the longitudinal axis of the filter cigarette and wherein one of the cursor and the scale of the ventilation indicator is provided on the outer surface of the sleeve and the other of the cursor and the scale of the ventilation indicator is provided on the rod end band of tipping paper or the mouth end band of tipping paper.

13. A filter cigarette according to claim 12 wherein at least one of the sleeve and the filter wrapper is substantially air-impermeable and the sleeve includes at least one opening (39) therein and the portion of the filter wrapper underlying the sleeve includes at least one opening (35) therein, such that rotation of the sleeve about the longitudinal axis of the filter cigarette rotates the at least one opening in the sleeve into varying degrees of registry with the at least one opening in the filter wrapper thereby varying the level of ventilation obtained during smoking.

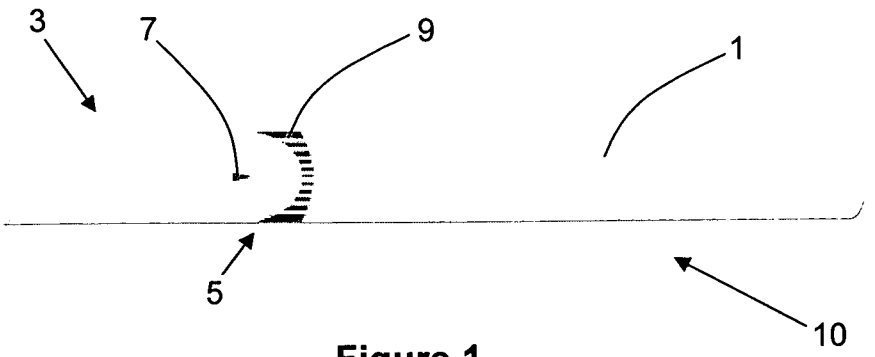

Figure 1

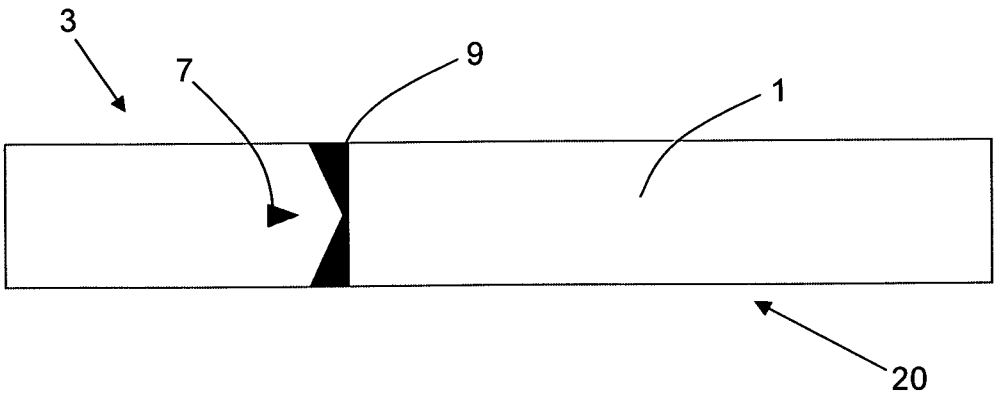

Figure 2

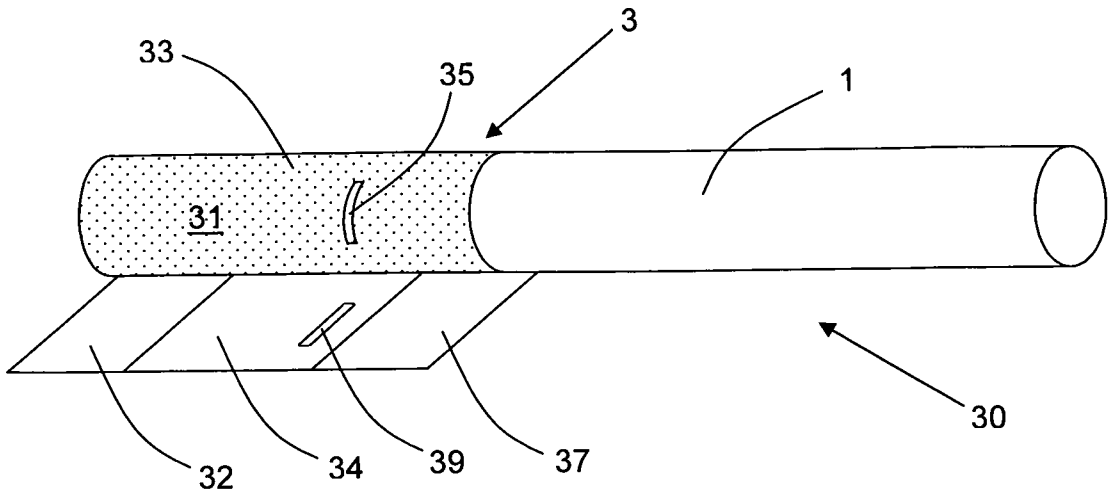

Figure 3

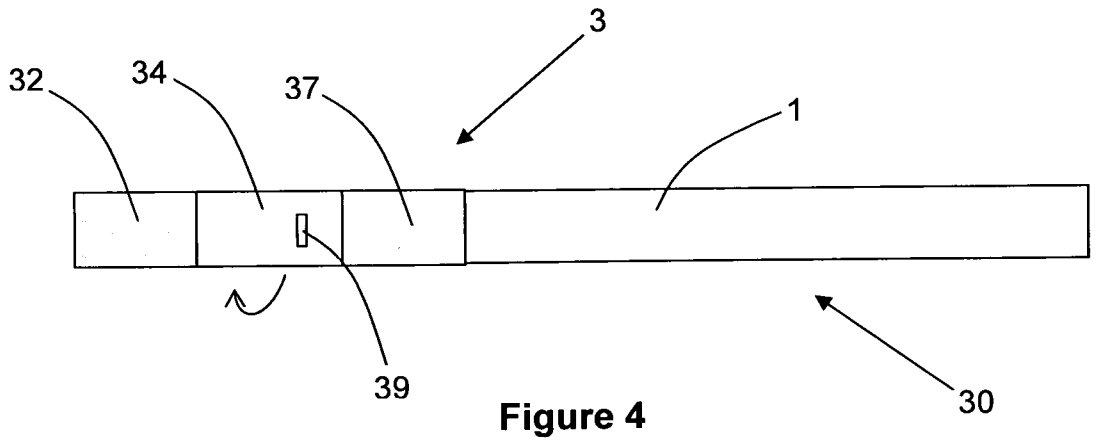

Figure 4

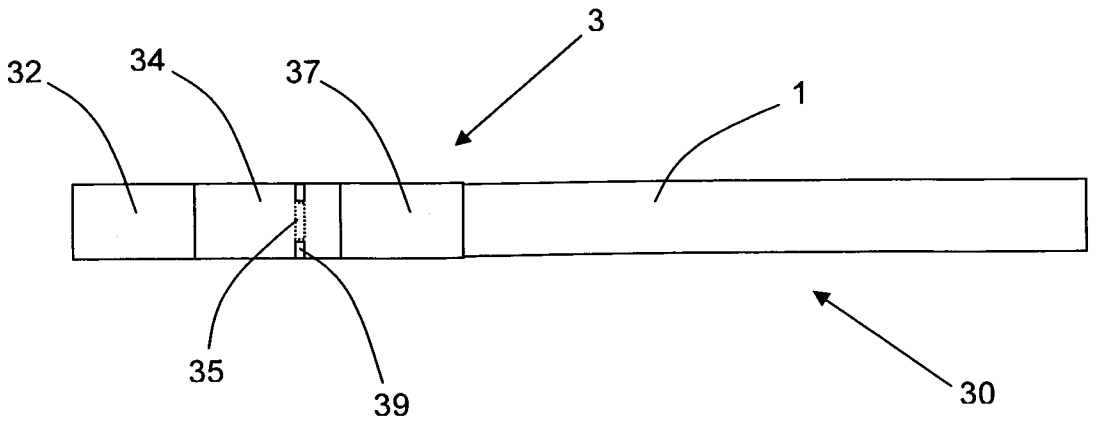

Figure 5

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2011/001502

A. CLASSIFICATION OF SUBJECT MATTER
INV. A24D3/04
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A24D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2 273 443 A5 (FAHIR ABDELLAH [MA]) 26 December 1975 (1975-12-26) cited in the application page 3, lines 8-27 page 5, line 9 - page 10, line 3 figures A,B	1-13
A	US 3 519 000 A (HOUSER ROY W) 7 July 1970 (1970-07-07) cited in the application abstract; figure 1	1
A	US 4 699 158 A (SPRINKEL JR FRANCIS M [US]) 13 October 1987 (1987-10-13) column 2, lines 5-28; figures	8

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
24 August 2011	31/08/2011

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Kock, Søren

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Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2011/001502

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 2 033 531 A1 (PHILIP MORRIS PROD [CH]) 11 March 2009 (2009-03-11) paragraphs [0022] - [0025]; figures 5-7	9-13
A	US 4 600 027 A (HOUCK WILLIE G [US] ET AL) 15 July 1986 (1986-07-15) abstract; figure 18	1
A	FR 2 873 899 A1 (GIMENO MICHEL ANGE [FR]) 10 February 2006 (2006-02-10) abstract; figure 1	1
A	US 4 646 763 A (NICHOLS WALTER A [US]) 3 March 1987 (1987-03-03) abstract; figures	1

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2011/001502

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 4699158 A	13-10-1987	NONE	
EP 2033531 A1	11-03-2009	WO 2009031038 A2	12-03-2009
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		DE 3665250 D1	05-10-1989
		EP 0223494 A1	27-05-1987
		JP 62118876 A	30-05-1987