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W. R. KANDEL

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FILTER CIGARETTE OF ADJUSTABLE FILTER CAPACITY

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Fig. 1.

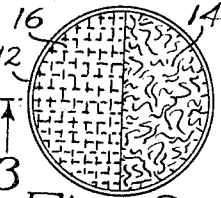
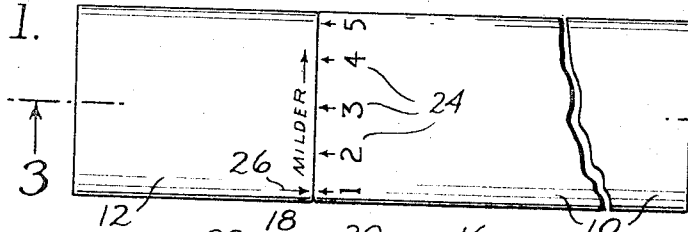


Fig. 3.

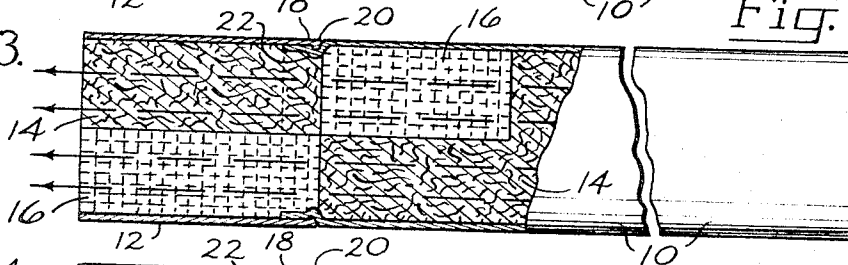


Fig. 4.

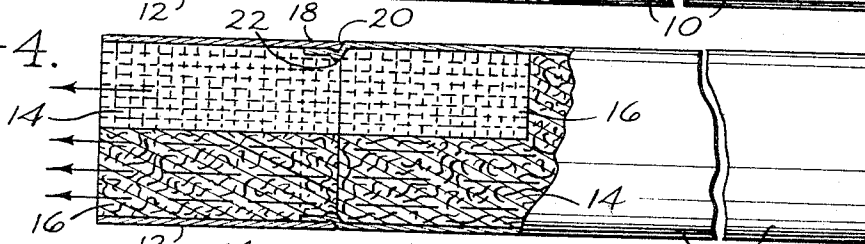


Fig. 5.

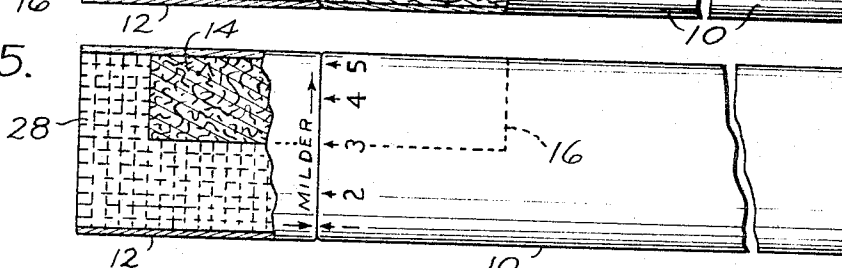


Fig. 6.

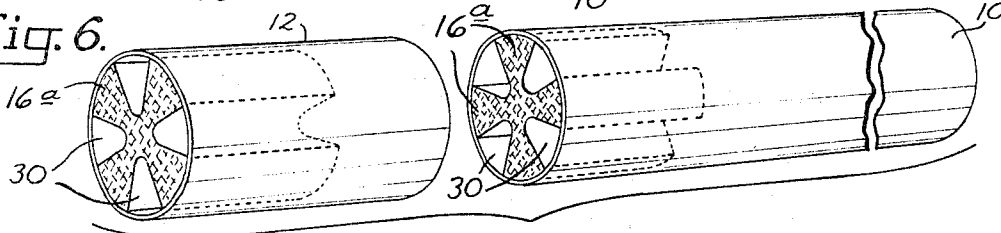
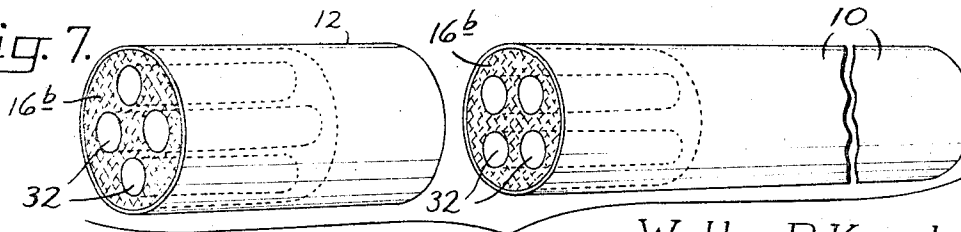


Fig. 7.



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FILTER CIGARETTE OF ADJUSTABLE FILTER CAPACITY

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6 Claims

ABSTRACT OF THE DISCLOSURE

A filter cigarette is divided transversely into tip and body sections rotatably interengaged and having meeting ends divided longitudinally into at least one segment filled with a tobacco smoke filter and another segment without a tobacco smoke filter, the two segments being axially offset from each other. A variable degree of smoke-filtering action thus is afforded, depending upon the relative angular adjustment of the tip and body sections.

This invention relates to filter cigarettes of adjustable filter capacity.

Although numerous types of filter cigarettes heretofore have been provided, none of them has been so constructed and arranged that a single cigarette can provide, at the election of the smoker, maximal tobacco smoke, a fully filtered smoke, or a smoke filtered to any desired intermediate degree.

The present invention accomplishes this object by providing a cigarette formed in transversely divided body and tip sections. The meeting ends of both sections are longitudinally divided, one longitudinal segment being filled with a porous, tobacco smoke filter and the other being without such a filter, the two segments being axially offset from each other.

Rotary interengaging means hold the tip and body sections in axial alignment, while permitting their angular rotation between positions wherein the tobacco and filter portions are in complete registration with each other, affording a substantially filterless smoke, a position wherein the tobacco and filter members are out of registration with each other, affording a completely filtered smoke, and any desired intermediate position. Indicia means are provided on the outside of the cigarette for indicating the relative positions of the two sections to assist the smoker in making his selection.

In the drawings:

FIG. 1 is a fore-shortened view in elevation of the presently described filter cigarette in a first embodiment;

FIG. 2 is an end view of the cigarette of FIG. 1;

FIGS. 3 and 4 are longitudinal sectional views taken along line 3-3 of FIG. 1 and illustrating the two maximum positions of filter adjustment;

FIG. 5 is a fore-shortened view in elevation, partly in section illustrating an alternate form of the filter cigarette the invention; and

FIGS. 6 and 7 are exploded perspective views of further alternate forms of the invention.

In the embodiment of the invention illustrated in FIGS. 1-4, inclusive, the filter cigarette comprises two transversely divided cigarette sections, a body section 10 and a tip section 12. These are adapted to be placed end to end in axial alignment.

Body section 10 is filled principally with tobacco 14. However, its end portion adjacent tip section 12 is longitudinally divided into axially offset segments of pre-selected size, number and cross sectional configuration. When there are two such longitudinal segments, one may be filled with tobacco 14, and the other with a porous, tobacco smoke filter 16.

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Similarly, tip section 12 is longitudinally divided, one axially offset segment being filled with tobacco 14 and the other with a porous tobacco smoke filter 16.

Interengaging means are provided for interengaging the body and tip sections for relatively rotation.

In the form of the invention illustrated in the drawings, the rotary interengaging means comprise a sleeve extension 18 of one or the other of the body or tip sections. As shown in FIG. 3 sleeve extension 18 extends outwardly from tip section 12. It overlaps the meeting end of body section 10, which is of reduced diameter, and is formed with an annular bead 20 at its outer extremity. The reduced portion of the body section is formed with an annular groove 22. Sleeve 18 thus may be slipped over the end of the body until bead 20 seats in groove 22, thereby forming a tongue and groove connection which rotatably interengages the two parts.

It will be seen that by rotating the two sections relative to each other various positions of filter adjustment may be obtained. In the position of FIG. 3, the tobacco-filled and filter-filled components are out of registration with each other. Hence in this position of adjustment a fully filtered smoke is obtained.

In the position of FIG. 4 the tobacco-filled and filter-filled parts are in direct registration with each other. Hence in this position of adjustment maximal tobacco smoke is obtained with the disclosed construction.

In addition, a number of intermediate positions are possible in which partly filtered smokes of intermediate intensity are obtained.

The various positions of adjustment of the filter components relative to each other are indicated by means of indicia appearing on the outer surface of the cigarette.

Thus, as shown in FIG. 1, radially spaced numerals 24 are printed on one of the cigarette sections, for example, body section 10. An index mark 26 is printed on the companion section 12. Thus by rotating the one section relative to the other until indicator 26 registers with the appropriate number, a smoke of the desired degree of filtration may be obtained.

In the embodiment of the invention illustrated in FIG. 5, the construction is similar, except that the smoke always is partly filtered.

This is made possible by providing a body section 10 similar in its construction to body section 10 of the previously described embodiment and formed with an insert filter 16.

Tip section 12, however, is provided with a filter segment 28 which occupies the longitudinal half of the tip for part of the tip but which fills the entire cross section of the tip at its outer extremity. Accordingly adjustment may be made in the manner heretofore indicated to obtain varying degrees of filtration, but, because of the construction of filter element 28, a certain minimum of filtration always is present. Also, a filter barrier is presented to prevent tobacco from entering the mouth of the smoker.

In the embodiments of the invention illustrated in FIGS. 6 and 7, the non-filtering segments of the tip and body portion are not filled with tobacco, but rather comprise hollow sections voids, thereby simplifying the construction.

Thus in the embodiment of FIG. 6, filter elements 16a are formed with longitudinal hollow sections voids 30, placed peripherally around the cigarette, wedge shaped in cross section and spaced radially from each other. Similarly in the form of the invention illustrated in FIG. 7, filter elements 16b are formed with longitudinally extending hollow sections voids 32, circular in cross section, spaced from each other and arranged in the body of the cigarette.

In both of these embodiments, a maximum tobacco smoke is obtained when the hollow sections voids in

body and tip section register with each other; a maximum filtered smoke, when the voids are out of registration with each other.

Having thus described my invention, I claim:

1. A filter cigarette of adjustable filter capacity comprising:

- (a) a cigarette formed in two transversely divided sections, a tobacco-filled body section and a tip section, adapted to be placed end to end in axial alignment,
- (b) the end of the body section adjacent the tip section being longitudinally divided, one longitudinal segment being filled with a porous, tobacco smoke filter and the other longitudinal segment being without a tobacco smoke filter,
- (c) the tip section being longitudinally divided, one longitudinal segment being filled with a porous, tobacco smoke filter and the other longitudinal segment being without a tobacco smoke filter, and
- (d) interengaging means interengaging the body and tip sections for relative rotation whereby to adjust to relative positions of both segments selectively in a position of registration with each other to afford a minimum filtering action; in a position out of registration with each other to afford a maximum filtering action; and a plurality of intermediate positions to afford intermediate degrees of filtering action said interengaging means comprising outwardly extending sleeve portions on the body and tip sections dimensioned to receive the meeting end of the companion section in nesting relation for achieving relative interengaging rotation, the sleeve and overlapped section being formed with mating annular tongue and groove means for restraining the two sections from

longitudinal displacement while permitting their free rotation.

2. The filter cigarette of claim 1 wherein the meeting peripheral margins of the body and tip sections are provided with radially spaced indicia for indicating the degree of registration of the tobacco filled and filter filled areas.

3. The filter cigarette of claim 1 wherein the filter-containing segment of the tip section has a terminal portion extending completely across the tip section.

4. The filter cigarette of claim 1 wherein the said other longitudinal segment of both body and tip section comprises a hollow section or void.

5. The filter cigarette of claim 1 wherein the said other longitudinal segment of both body and tip sections comprises a hollow section or void, the hollow section or void being peripherally positioned.

6. The filter cigarette of claim 1 wherein the said other longitudinal segment of both body and tip sections comprises a hollow section or void, the hollow section or void being located within the body of the cigarette, but offset from the longitudinal axis thereof.

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131—10.5, 10.7, 11, 187.