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ABOGADOS

www.cavelier.com
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EDIFICIO SISKI
CARRERA 4 No. 72 - 35
BOGOTÁ 8, COLOMBIA

Teléfono: (57-1) 347 3611
Telefax: (57-1) 211 8650
(57-1) 700 4814
Fax in U.S.A.: (1-305) 675 7743

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Señor Director
DIRECCIÓN DE NUEVAS CREACIONES
Superintendencia de Industria y Comercio
E. S. D.

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Referencia : Expediente No. 07079192
Asunto : Solicitud de patente para: **FILTRO DE MÚLTIPLES COMPONENTES QUE PROVEE MEJORAMIENTO DE SABOR MÚLTIPLE**
Solicitante : PHILIP MORRIS PRODUCTS S.A.
Clase : A24D 3/00
Fecha solicitud : 02 de agosto de 2007

1. Yo, Luz Clemencia DE PÁEZ, en mi condición de apoderada de la sociedad solicitante de la patente de la referencia, me refiero al oficio No. **12365** notificado por fijación en lista del 11 de agosto de 2011.

2. Mediante oficio No. **12365** se puso en conocimiento del solicitante el informe que contiene las observaciones hechas por su Despacho sobre la presente solicitud de patente. Las observaciones realizadas en el oficio son las siguientes:

2.1 Nivel inventivo

El Examinador no acepta los argumentos presentados en respuesta al oficio No. 15201, argumentando que la resistencia a la aspiración no es una característica técnica del filtro reivindicado en la presente solicitud. Según el Examinador, la resistencia a la aspiración corresponde a un comportamiento o resultado técnico que presenta el producto durante el uso y que como tal, no puede protegerse.

Del mismo modo, el Examinador menciona que las características propias de los materiales con los cuales está construido el producto reivindicado o su naturaleza tampoco se pueden proteger.

Dado lo anterior, el Examinador ha repetido los argumentos que según él demuestran la falta de nivel inventivo de la presente solicitud, respecto a los documentos D1 y D2.

2.2 Respuesta a la objeción

Respetuosamente nos apartamos de la conclusión que hace el Examinador respecto a las características del producto de la presente invención, por lo que atentamente solicitamos reconsiderar la objeción en vista de los siguientes argumentos:

Contrario a lo que afirma el Examinador, consideramos que la resistencia a la aspiración sí es una característica técnica válida del filtro reivindicado y que por lo tanto, resulta también una característica que lo diferencia respecto a los filtros del arte previo.

Con el fin de soportar estas afirmaciones se presenta como anexo 1 al presente memorial, copia de las páginas 116 y 256 de la "Tobacco Encyclopaedia" (Voges, 1984), en donde se establece que la resistencia a la aspiración es **una característica** del segmento de un filtro.

Específicamente la definición de resistencia a la aspiración (draw resistance o resistance to draw, por su definición en inglés), en la página 116 señala:

***"resistencia a la aspiración** Característica de un cigarrillo, barra de filtro, etc. que describe su buena o mala capacidad de permitir que un flujo de aire pase a través de éste, lo cual se correlaciona con la facilidad con la cual éste puede ser fumado. Se mide por medio de la caída de presión → caída de presión".*

Igualmente en la página 253, la definición de caída de presión (pressure drop, por su definición en inglés), señala:

***"caída de presión** La diferencia en presión estática entre dos extremos de una muestra de cigarrillo, etc., probada en un circuito neumático de una máquina de fumar cuando una corriente de aire a una tasa de 17.5 ml/s pasa a través de éste. La caída de presión de usa para medir → resistencia a la aspiración".*

Adicionalmente, también se presenta como anexo 2, copia de las páginas 67 a 69 del libro "The Design of Cigarettes" (Colin L. Browne, tercera edición, 1990) en donde se establece que la resistencia a la aspiración (caída de presión) de un segmento de filtro está estrechamente conectada a, y varía directamente, con el peso de dicho segmento y el grado de

separación del material de filtración allí contenido. También se señala que la resistencia a la aspiración (caída de presión) de un segmento de filtro puede ser derivado de principios básicos.

Consecuentemente, contrario a lo que afirma el Examinador, la resistencia a la aspiración no es simplemente un comportamiento o resultado técnico que un segmento de filtro provee durante su uso. En contraste, la resistencia a la aspiración es una característica técnica esencial de un segmento de filtro **que está directamente relacionada con la estructura física del segmento de filtro**. En este sentido, es relevante mencionar que caracterizar un segmento de filtro por su resistencia a la aspiración no resulta diferente de caracterizarlo por ejemplo, por su longitud o forma.

Así, las resistencias a la aspiración definidas para los filtros de la presente invención pueden ser comparadas con las resistencias a la aspiración definidas para los filtros conocidos en el arte previo, de manera que es posible establecer que el filtro reivindicado resulta tanto novedoso como inventivo sobre dicho arte previo.

En el momento de evaluar las resistencias a la aspiración de los segmentos individuales del filtro de la presente solicitud y compararlas con respecto a la información contenida en los documentos D1 y D2, es posible establecer, como se demostró en respuesta al oficio 15201, que el filtro de la presente invención resulta inventivo.

Particularmente, tal como se describe en la descripción de la invención, la resistencia a la aspiración incrementada del segundo segmento de liberación de sabor del filtro multi-componente de la presente invención comparado con el primer segmento de liberación de sabor y el segmento de extremo de boquilla, **ventajosamente ayuda a maximizar el sabor por el segundo segmento de liberación de sabor de la aspiración del humo en la corriente principal**, desde una varilla de material fumable a través del filtro.

Como resultado de lo anterior, los filtros multi-componentes de conformidad con la presente invención **proveen un mejoramiento dual del sabor**, mientras se logran reducciones de los componentes particulados y gaseosos del humo en la corriente principal y una resistencia a la aspiración global aceptable. Por lo tanto, contrario a lo que afirma el Examinador, se considera que el pliego reivindicatorio es inventivo sobre las enseñanzas de los documentos D1 y D2.

Consecuentemente, solicitamos atentamente tener en cuenta la información acá señalada, así como las copias de los documentos mencionados, de forma que se demuestra

que la resistencia a la aspiración sí es una característica técnica del producto, perfectamente mensurable y determinable con la caída de presión.

Adicionalmente, se solicita tener en cuenta los argumentos presentados anteriormente y los cuales demuestran que dicha resistencia a la abrasión, tal como se define para el filtro de la presente invención, permite ofrecer un efecto ventajoso, resultando inventivo sobre el arte previo.

4. Puesto que se han atendido a cabalidad las observaciones hechas por su Despacho sobre la presente solicitud de patente, atentamente solicito que se continúe su tramitación.

Señor Director,


LUZ CLEMENCIA DE PÁEZ

C.C. 35.456.344 de Usaquén

T.P.A. No. 23.555

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Editorial Staff

Deborah Fry B.A. Hons.
Barbara Horne B.A. Hons.
Hans Georg Pöhl

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draught resistance

Basma district, and that of Prosotsane as part of the Drama-Bashi-Bagli district. However, because of the great importance of these growing areas they are now nearly always regarded as distinct producing regions.

draught resistance → draw resistance.

draw 1) → draw resistance. 2) The → fire-holding capacity of a cigarette.

drawback Arrangement by which Customs (import) duty paid on tobacco entering a country for manufacture is paid back when goods made from it are exported. In practice, the rebate is not quite as big as the amount originally charged, since a certain amount of tobacco is lost or degraded during manufacture (e.g. dust, fines and, in some cases, stems). Some Customs administrations, however, give credit to manufacturers for such waste products which are delivered to them for destruction.

drawing Process in which flavouring materials are allowed to permeate the tobacco thoroughly. The materials are sprayed lightly onto the tobacco after it has been dried and cooled and it is then stored for several hours in silos or boxes.

drawing qualities Those qualities in a cigarette which ensure an even burning rate and free passage of air. → draw resistance.

draw resistance (also resistance to draw) Characteristic of a cigarette, filter rod, etc. which describes its good or bad ability to allow an air flow to pass through it, which is correlated with the ease with which it may be smoked. It is measured by the → pressure drop.

Dresden Regional capital in the DDR which was the birthplace of the German cigarette industry at the turn of the century (→ Laferme), as well as of the tobacco machinery industry (→ VEB Verpackungsmaschinenbau) and the trade in oriental leaf tobacco. Nowadays it is the headquarters of the → VEB Kombinat Tabak, the VEB Vereinigte Zigarettenfabriken, the VEB Tabakkontor, which acts as the centre for the trade of leaf tobacco and transshipment and, to a certain extent, of finished goods as well, and the scientific centre of the tobacco

industry (→ VEB Wissenschaft und Technik, Tabakindustrie).

drier Plant or device which extracts moisture from tobacco or tobacco goods during treatment or processing or which regulates their moisture content so as to allow them to be packaged, redried, sold, or stored. → redrier, → belt cooler, → drying cabinet, → toaster.

drinkers Tobaccos which absorb large amounts of liquid during casing.

drinking tobacco → tobacco drinking.

Drôme Relatively important tobacco-growing area in South-East France.

dropping The positioning of tobacco seedlings ready for transplanting at regular intervals along rows. The person who does this is known as the dropper.

drought resistance The ability of the tobacco plant to survive periods of severe water stress; an important property, especially for broad-leaved types. The ability to withstand droughts, which may be due either to local climatic conditions (i.e. low summer precipitation) or to exceptional weather (i.e. non-arrival of expected rains), depends on a strongly-developed root system. Oriental tobaccos have more modest water demands than other varieties. Resistance may be determined by measuring the absorption strength. → dry weather tobacco.

drought spot Necrotic brown areas sometimes appearing on the leaves of tobacco plants during extended dry conditions.

drowning The asphyxiation of the roots of a plant due to waterlogged soil. This produces wilting, which is followed by death within a few hours if conditions do not improve. Drowning can usually be avoided by planting the tobacco on raised beds.

drug store beetle → biscuit beetle.

drum 1) Metal cylinder used in primary processing for ordering, moistening, casing, drying, or flavouring strips or cut tobacco. 2) → delivery drum.

drum drier (also drying drum) Type of → drier consisting of a rotating cylindrical chamber.

drummer Cigar salesman in the nineteenth and early twentieth centuries.

(flavourings. Pressed tobaccos tend to smoke mild and cool.

presses Presses are used with tobacco: 1) in connection with packing leaf tobacco (hogshead presses, bale presses, case presses and presses designed for tobacco to be packed in cartons) and 2) in the manufacture of certain types of pipe and chewing tobacco (plug, etc.). → pressure.

pressing, turning and drying machine Machine which is synchronized with a cigar bunch maker, used mainly to give the bunch the desired shape and to dry it before the overrolling process. Different devices are available for cigars and cigarillos. The latter can take the form of an individual shaper for the ends of cylindrical rod bunches.

Presstabak German tobacco product produced by fermenting Kentucky tobaccos at maximum pressure and then adding casing and paraffin-based humectants. It used to be very popular in Silesia (now part of Poland), where it was used mainly as pipe tobacco, though small amounts were also chewed.

pressure 1) The pressure applied to tobacco during pressing before it is packed is by no means unimportant. For example, oriental tobaccos which have not yet been matured are only lightly pressed in the depots before being aged. Matured, manipulated tobacco packed in trade bales is pressed more firmly, however; this reduces its volume by 30 - 40% depending on the variety, class etc. The degree of pressure exerted is decided by experts on the basis of their practical experience. Flue-cured tobaccos are generally pressed nowadays into cardboard cases weighing 200 kg. net. The baling of cigar tobaccos is done by traditional methods: the amount of pressure exerted is often unknown and can vary considerably, though packages of the same type of tobacco usually have the same weight and volume even though they have been subjected to different pressures. The various types of packaging have been empirically tested in practice, and the method used with a particular species of tobacco leaf cannot easily be abandoned without detrimental effect. Oriental and cigar tobacco cannot be pressed in hogsheads (it

is usually baled): Virginia tobaccos are baled, or pressed in hogsheads or cardboard cases. Contact pressure regulates the internal structure of the mass, especially its elasticity and condition, to a large extent. This is particularly evident in the case fermentation of suitably conditioned tobaccos, where the pressure exerted on individual cases varies. The greater the differences between cases, the greater the variation in the results of the fermentation. Subsequent post-ripening and post-fermentation processes also depend physically on the degree of pressure applied. This area has not yet been fully investigated scientifically, though some work has been done in the USSR, for example on pressing tobacco in narrow bales on metal presses. In the US the problems have been studied more closely as regards the mechanised pressing of hogsheads, and the development of equipment which satisfies the demands of both quality and the problems involved is still lacking. 2) → Table: Packaging Units, Leaf Tobacco.

pressure belts Heavy, segmented metal belts which press tobacco through the tapered mouthpiece of a cutting machine to form a firm block or cake. The operator must ensure that the tobacco is always evenly distributed so that the pressure is exerted uniformly on all parts of the block.

pressure drop The difference in static pressure between the two ends of a sample cigarette, etc. tested in the pneumatic circuit of a smoking machine when a current of air at a rate of 17.5 ml./s. passes through it. The pressure drop is used to measure → draw resistance.

Priangan Area on Java (Indonesia), the capital of which is Bandung. It grows Java tobacco on a small scale.

Prilep The biggest tobacco-growing district in Yugoslav Macedonia, which grows oriental tobaccos of the Prilep type. They approximate in terms of quality to the neighbouring Bulgarian Macedonian tobaccos and provide good aromatic tobaccos for cigarette blends.

prima 1) First grading for Colombian tobacco. 2) Grading for Bahia tobacco.

The Design of Cigarettes

Colin L. Browne, Ph.D.

Filter Products Division
Hoechst Celanese Corporation
Charlotte, North Carolina

Third edition.
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to the fiber mass. Within the usual limits, firmness increases with increasing bonding. Individual fiber denier and cross-section also influence firmness.

Conventional Acetate Tow Filters

Particle Removal

Two parameters must be considered in particle removal. These are pressure drop and filtration efficiency, which are closely connected and vary directly with the weight of the rod and the degree of separation of the fibers. Pressure drop, sometimes referred to as resistance to draw, is the amount of suction that must be used by the smoker to pull smoke through the filter. The filter's resistance to draw is additive to that of the tobacco column and this sum must not exceed the upper acceptable level of about 150 mm H₂O.

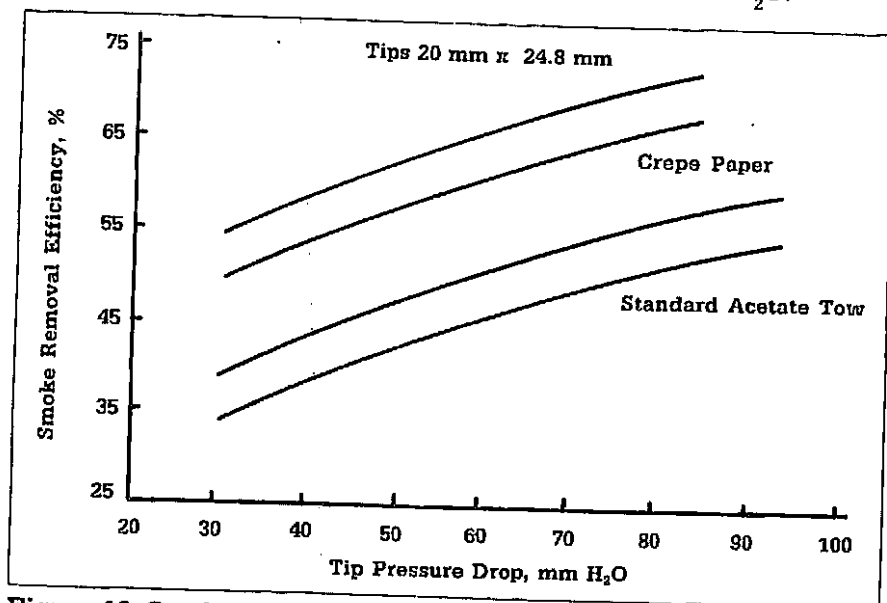


Figure 12. Smoke removal efficiency vs. tip pressure drop

Removal efficiency is the proportion of the amount of material retained by the filter compared with that entering it. Efficiencies are often reported for total smoke removal, tar removal, nicotine removal and water removal. Pressure drop and removal efficiencies are related in a well-defined way, as shown in Figure 12.

It has been demonstrated that the pressure drop of the filter system can be derived from basic principles and that the calculated and observed values agree very well.^{30,32,33} The equation developed, shown in Figure 13, confirms the importance of filter variables as experienced in practice. That is, pressure drop increases with increasing:

- Weight
- Length
- Surface area
- Flow rate
- Fiber crimp angle

and decreases with increasing:

- Denier per filament
- Nonuniformity of fiber distribution
- Filter cross-sectional area

A particle removal efficiency equation (Figure 14)³² has been derived using only theoretical considerations such as those used in developing the pressure drop equation. Particle-size distribution and the influence of fiber orientation on the mechanism of filtration were among the factors included. The equation was tested and found to be in good agreement with experimental data.

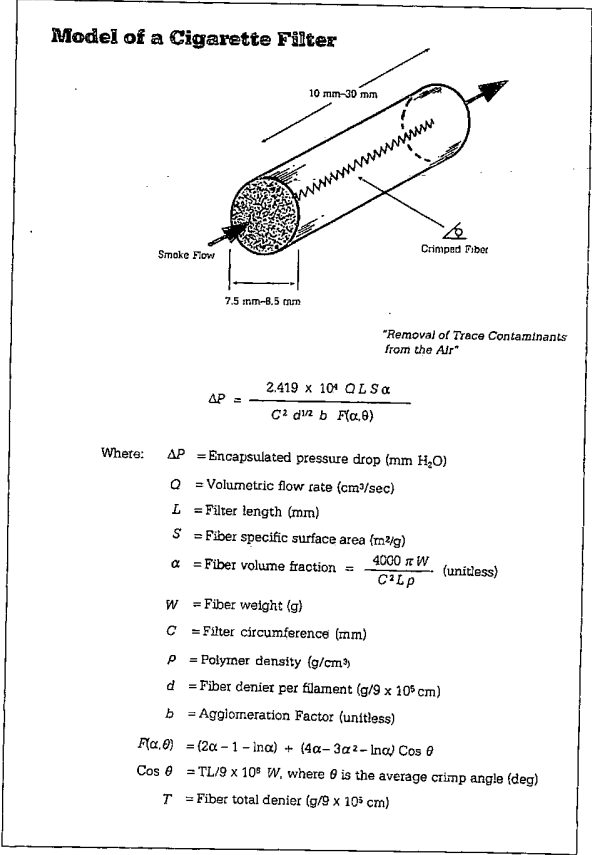


Figure 13. Pressure drop equation³²