

NEW FILTER FOR REMOVING TAR, NICOTINE AND TOXIC COMPOUNDS FROM TOBACCO SMOKE

DESCRIPTION OF THE TECHNOLOGY

It has developed a new **combined filter** that **eliminates the tar, the nicotine and other toxic gases** present in tobacco smoke in a very efficient way **more efficiently than current filters** available in the market.

The invention is characterized because it combines three membranes of different characteristics arranged in a very specific way.

The primary membrane (M1), located at the end closest to the tobacco column, is formed by a perforated disk of impermeable material. It also has an outer membrane (M3) of cellulose acetate fiber located at the end in contact with the mouth of the smoker. It can also incorporate a cylindrical intermediate membrane (M2) between M1 and M3 formed by an adsorbent material.

MARKET APPLICATION SECTORS

The present invention is part of the **tobacco industry**, referred to cigarettes, and in particular, a combined filter for use in any type of tobacco column, both in the variety of **commercial cigarettes**, cigars, cigarillos, unfiltered cigarettes, stuffed tubes and **hand-rolled cigars**.

Therefore, according to its final use, the filter can present different variants.

TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

This new combination of membranes provides the following **advantages** over the systems currently available in the market:

- Drastically **reduces the inhalation of toxic compounds** by the smoker. Examples of reduction percentages for some substances, among many others: tar (-75%), nicotine (-74%), carbon monoxide co (-47%), phenol (-61%), etc.
- **Greater effectiveness** than current filters.
- **Low manufacturing cost**: less material is required to achieve greater filtering effectiveness.
- Wide **profit** margin for the company.
- **Draw resistance is maintained** during smoking.
- It can be adapted in a simple way to **any type of cigarette**: both commercial (cigarettes, cigars, cigarillos, unfiltered cigarettes), and in rolling tobacco.
- **Versatility** of commercialization: the membranes can be manufactured separately and used directly by the consumer in rolling tobacco cigarettes, or already assembled in commercial filters.
- It allows dispensing different **tastes** or **flavors** to the smoker.
- It is a **solution much in demand** by smokers.

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CURRENT STATE OF DEVELOPMENT

This innovative filter has been tested **successfully** both at the **laboratory level** and by **voluntary smokers**. For this, **prototypes** have been developed.

The smoking experiments in the laboratory were carried out with 3R4F tobacco from the University of Kentucky following the conditioning and smoking conditions described in ISO 3308.

INTELLECTUAL PROPERTY RIGHTS

The present invention is protected through **patent application**:

- *Title of the patent: "Filtro combinado para la eliminación de alquitranes y compuestos tóxicos del humo del tabaco".*
- *Application number: P201731446.*
- *Application date: December 21st, 2017.*

COLABORATION SOUGHT

It is looking for manufacturing companies of complete nozzles, filters, tobacco, cigarettes, smoking papers or smoking filters interested in acquiring this invention for commercial exploitation through **patent license agreement**.

RELATED IMAGES



Image 1: tobacco column (T) and combined filter by: the primary membrane (M1), the intermediate membrane (M2) and the outer membrane (M3).

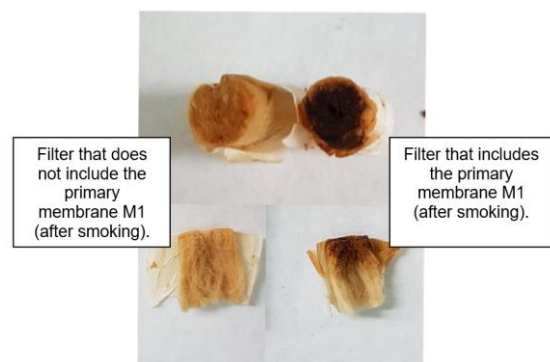


Image 2: it shows the aspect of a filter after smoking the same tobacco, under the same conditions, not using the membrane M1 (left part of the pictures) as compared to a filter using the M1 membrane (right part of the pictures). This fact clearly shows the lower amount of tar inhaled by the smoker if using this innovative filter.

CONTACT

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