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3,393,683

CIGARETTE FILTER

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Cigarette Tobacco Filter

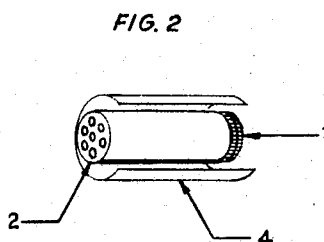
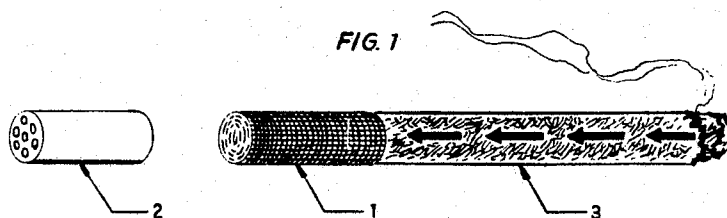


FIG. 3



FIG. 4



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CIGARETTE FILTER

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1 Claim. (Cl. 131—10.5)

ABSTRACT OF THE DISCLOSURE

A cylindrical cigarette filter construction manifesting about 13,500 openings or smoke passageways which result from rolling a cotton gauze about an inner linen fabric, the linen fabric having about 8 times the number of the openings in the cotton gauze.

The invention disclosed herein, is concerned with the hazards of smoking tobacco as is well known today. It is known that tar, nicotine and other components of carbons mixed with hydrocarbons and chemicals, are measured in terms of milligrams, and that these components will vary in such amounts in accordance to the size of cigarette or tobacco used. Further, the region and climatic conditions of relative humidity influence the difference of the various components.

The filter of this invention captures a great deal of these poisons or components as they are drawn through the filter. The filter in process of manufacture is made from two fabrics, commonly known as a cotton gauze and fine linen. Both fabrics come from plant life, as cotton and flax, which are spun as threads and then woven into fabrics. Both fabrics as used in this invention are also known as basket weaves. No novelty is asserted as to the specific nature of the fabric weave or material design. The cotton-gauze used in this filter contains in its weave about 200 tiny holes per square inch. The linen is similar to a fine linen handkerchief; its weave contains about 1,600 smaller holes per square inch. When both of these fabrics are machine-rolled together, a cylindrical or round filter, in section, is formed. The width of each fabric is one inch, and the length of each is between 7½ and 8 inches before being rolled together, depending on the thickness or diameter desired, or as a finished round unit filter (in section) the diameter is about 7 millimeters, or one-quarter of an inch.

When the fabrics are formed into a filter in the rolling process, the cotton-gauze is on the outside, with the linen on the inside. The filter then can be machine-wrapped within the cigarette wrapper paper. The filter weighs less than a half ounce or about 11 grams, and the longer the filter the more it will adsorb. As a whole unit of one inch in length and a diameter of 7 millimeters, it adsorbs about 18 times its own weight, and contains about 13,500 breather holes. The fabrics can easily be sterilized. No compounds or crystalline powders or other possibly toxic materials are used.

It is to be observed, that as an alternate or modification both fabrics can be woven as a one-piece material, a blend of cotton thread and linen threads containing approximately 1,800 holes per square inch, the holes in the mesh functioning to permit passage of the smoke while the smoke components and moisture adhere to the fabric.

To prevent the manifestation of threads or tobacco shreds projecting from the mouth end of a cigarette as a result of cutting operations in the manufacture of cigarette, a hollow, thin plastic sleeve molded with draw holes may

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be employed in the practice of my invention. The filter is inserted within the sleeve and the assembly machine wrapped within the cigarette paper wrapper. Or, in a modification, a flap extension of the linen may be folded over the mouth end of the filter and secured in place, if desired, by means of an adhesive such as protein glue.

This filter may also find use in cigarette holders, cigar holders or pipe smoking stems in various sizes.

This invention is now described with reference to the accompanying drawing:

In the drawing FIGURE 1 is an exploded view, partly in section of a cigarette. At the mouth end, subscript number 1, illustrates the machine rolled filter. This is one inch in length, round with a diameter of 7 millimeters.

To the left of this view is subscript number 2. This is the egg-shell-thin plastic molded sleeve which is hollow. It can be observed at the mouth end the holes indicated are draw holes which are a part of the plastic molded sleeve. Subscript number 3 is the tobacco area in which the arrows indicate the direction of flow when puffing a cigarette. It can be observed that the cigarette wrapper paper is not shown here, but it is so shown in Drawing FIGURE 2, and indicated by the subscript number 4.

In the drawing FIGURE 2, the subscript number 1, points out the filter inserted within the egg-shell-thin plastic molded sleeve. Subscript number 2, indicates the draw holes as part of the plastic sleeve. These holes are approximately ¼ of an inch, and can be diagonal and diametrically spaced or in a circle as shown. The holes may be enlarged to fit and suit the purpose of proper draw; this will determine the number of holes desired. The length of FIGURE 2 is the same as the filter or one inch; in diameter it is a small fraction larger than the filter, so that the filter fits snugly inside.

In the drawing FIGURES 3 and 4 are plan views of the fabrics laid flat. FIGURE 3 is the basket weave of fine linen. This contains approximately 1,600 holes per square inch. FIGURE 4 is the cross section view of the fabric cotton-gauze containing about 200 holes per square inch. In combination when these fabrics are placed snugly together, there are about 1,800 holes per square inch. Therefore, it is conceived that when these fabrics are machine rolled together from the lengths of seven and a half inches and a width of one inch, the unit filter contains more than 13,500 tiny breather holes.

I claim:

1. A cigarette construction comprising a charge of tobacco at one end thereof a cylindrical shell having a perforated mouthpiece end at the other end of the cigarette, the said shell enclosing a rolled filter, the latter being constituted of an outer cotton gauze fabric superposed on an inner linen fabric both approximately seven and one half inches in length and one inch in width, the cotton gauze containing approximately 200 openings per inch and the linen about 1600 openings per inch so that the unit as a whole contains approximately 13,500 openings, and a wrapper securing the shell, rolled filter and tobacco charge in assembled relationship.

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