Dec. 18, 1956 I. FLORMAN 2,774,354

CHLOROPHYL IMPREGNATED FILTER MEANS FOR TOBACCO PRODUCTS

Filed May 21, 1952

Fig. 1

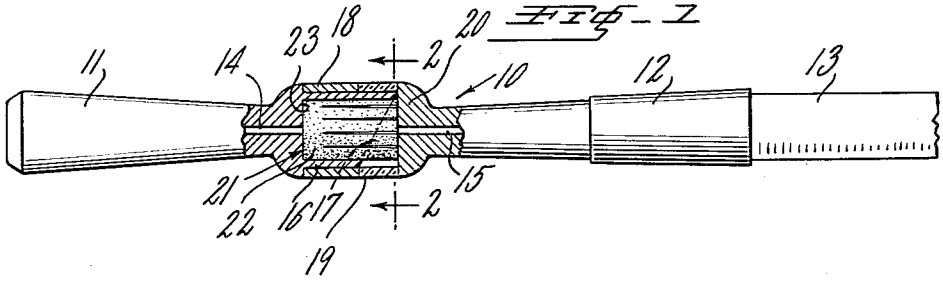
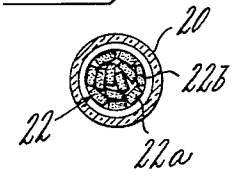


Fig. 2



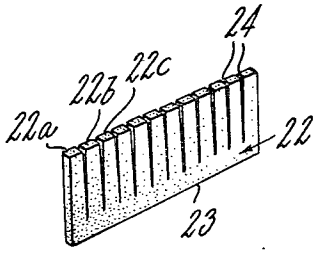
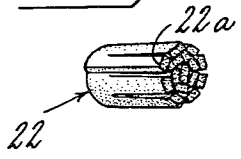


Fig. 3

Fig. 4



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CHLOROPHYL IMPREGNATED FILTER MEANS FOR TOBACCO PRODUCTS

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1 Claim. (Cl. 131—208)

This invention relates to filter means for tobacco products and smokers' articles.

It is one of the objects of the present invention to provide means ensuring efficient filtering of tobacco smoke and purification of the latter during smoking of a tobacco product, such as a cigarette, cigar and the like.

It is a further object of the present invention to provide means facilitating the enlargement of the filtering surface of pliable filtering means as well as the enhancement of the effectiveness of the filtering means by imbuing or associating the same with a purifying medium, such as chlorophyl or chlorophyl compound.

Yet another object of the present invention is to provide means rendering the possibility of observing the utilization of the filtering means in a smoker's article and ready replacement of said filtering means after the same has been used for a certain length of time.

Still another object of the present invention is to provide means permitting the combination of asbestos filtering means with a chlorophyl compound incorporated in said filtering means, whereby the latter is given more body and its filtering properties are considerably increased.

It is still another object of the present invention to provide means conducive to the manufacture of a relatively inexpensive filter material for use in tobacco products and smokers' articles, which filter material, in conjunction with a water soluble chlorophyl derivative, brings about increased cleansing, purifying and deodorizing qualities and substantially eliminates the bite from smoke without substantially impairing the taste of the tobacco.

Still a further object of the present invention is to provide means contributing to the elimination of noxious constituents contained in tobacco and tobacco smoke and simultaneously enhancing the flavor of the tobacco and reducing smoke odors and irritation from smoke to a negligible degree.

The above and other objects and features will become apparent from the following detailed description, reference being had to the accompanying drawing.

In the drawing:

Fig. 1 is a side elevational view partly in section of a cigarette holder embodying the invention;

Fig. 2 is a cross-sectional view taken along line 2—2 of Fig. 1;

Fig. 3 shows a filter strip before the insertion into the filter housing of Fig. 1;

Fig. 4 shows the filter strip of Fig. 3 in rolled condition and before the insertion thereof into the filter housing of the cigarette holder of Fig. 1.

Referring now more particularly to the drawing there is shown in Fig. 1 a cigarette holder **10** having mouthpiece **11** and a sleeve or receptor **12** for a cigarette **13**. Through the mouthpiece **11** extends a bore **14**, whereas an aligned bore **15** is provided in the receptor **12**. The mouthpiece **11** has a sleeve-like extension **16** which terminates in inclined edge **17**. The receptor piece **12** has a tubular

extension **18** with a transparent portion **19** extending between tubular extension **18** and end portion **20** of receptor piece **12**.

This transparent portion **19** may be glued to or in any other way inserted or attached to the receptor piece **12** and its tubular extension **18**. Tubular extension **18** and sleeve **16** define a filter housing **21** in which a filter **22** is inserted. This filter is made preferably from asbestos and has the finger pieces **22***a*, **22***b*, **22***c*, etc., which are of rectangular form, as more clearly seen in Fig. 3.

These finger pieces are obtained by cutting the filter strip **22** from one longitudinal edge to a position short of the other longitudinal edge **23**, as can be clearly visualized from Fig. 3. The asbestos filter piece **22** is preferably imbued, saturated or otherwise impregnated with a suitable purifying agent, such as chlorophyl or chlorophyl compound, as hereinafter explained.

The thus impregnated asbestos strip **22** is then rolled up, as seen in Fig. 4, and subsequently inserted in filter housing **21** in a manner as clearly indicated in Fig. 1 with the edge having slits **24** positioned in the direction from which the smoke is to be received.

The asbestos filaments may be combined with wood pulp, cotton fibers, blotting paper and like cellulose material to give body to the asbestos strip. It is further preferred, according to the invention, to saturate or impregnate such asbestos filaments with chloroplast or other fluid derivative of chlorophyl which is a great purifier, reduces irritation and eliminates odors. Instead of mineral filaments as just referred to other absorbent fibrous materials, such as glass wool or suitable synthetic (nylon) fibers may be employed either alone or combined.

By saturating the aforesaid asbestos filter material with a known soluble chlorophyl derivative, the cleansing and deodorizing qualities as well as the filtering properties of asbestos become greatly enhanced as apparently asbestos and chlorophyl undergo a catalytic chemical change, as the absorbing qualities of asbestos are improved and a maximum of impurities will be thus eliminated. If desired, the soluble chlorophyl derivatives may be flavored with menthol forming approximately 3% by weight of the total chlorophyl solution, containing approximately 15% by weight of alcoholized solution C_2H_5OH.

The smoke coming from the cigarette and passing through such filter has been found to be of clear and less dense appearance and thus has less tendency for tobacco odors to settle down on furniture, walls, and wearing apparel. While the asbestos filter removes tars and nicotine, chlorophyl incorporated in such asbestos filter contributes to an enhanced purifying action as regards tobacco smoke.

Due to the fact that a strip of asbestos **22**, as shown in Fig. 3, is provided with a plurality of slits **24**, the filtering surface, as may be more apparent from Fig. 4, will be greatly enlarged, while the rolled up filter strip **22** permits easy handling of the filter for insertion in a filter housing of a cigarette holder, as hereinabove referred to.

Due to the slits **24**, the filtering surface of the filtering material is greatly enlarged, which contributes to an improved filtering of tobacco products.

It is well understood that the asbestos filter means as herein disclosed may further be suitably treated with chlorophyl solution to eliminate nitrogen compounds present in tobacco smoke, which have a noxious effect on the smoker. Such nitrogen compounds may be pyridine, empyreumatic oil and nicotine without impairing the aroma-imparting qualities of the smoke and flavor of the tobacco, which latter is rather enhanced due to the presence of chlorophyl.

It can thus be seen that there has been provided ac-

cording to the invention chlorophyl impregnated filter means for smokers' articles which may be in comminuted form or preferably in strip formation with enlarged filtering surfaces, as hereinabove disclosed.

It will be understood that the filter is capable of modifications without departure from the general scope and spirit of the invention as defined in the claim.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent, is:

A filter for the insertion in a smoker's article comprising a lengthy strip of absorbent fibrous material having opposite longitudinal edges and with a plurality of parallel and equally spaced incisions extending in cross-wise direction of said filter strip to thereby increase the effectiveness of the absorbent surface of said strip, said incisions extending from one of said longitudinal edges of said strip toward and terminating short of the opposite longitudinal edge of said strip, said strip being deformable to thereby expose the incised edge thereof in the direction from which the smoke is to be first received, said fibrous material consisting essentially of compressed asbestos fibers impregnated with a deodorizing agent in the form of menthol flavored chlorophyl compound.

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