

# United States Patent

[11] 3,625,228

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[56] **References Cited**

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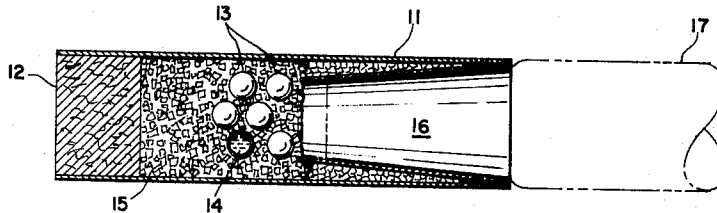
[54] **HEAT ACTIVATED FILTER FOR SMOKING DEVICES**  
2 Claims, 3 Drawing Figs.

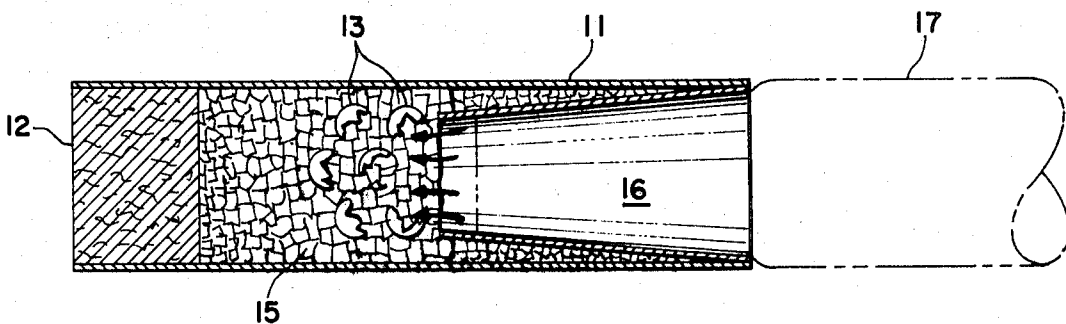
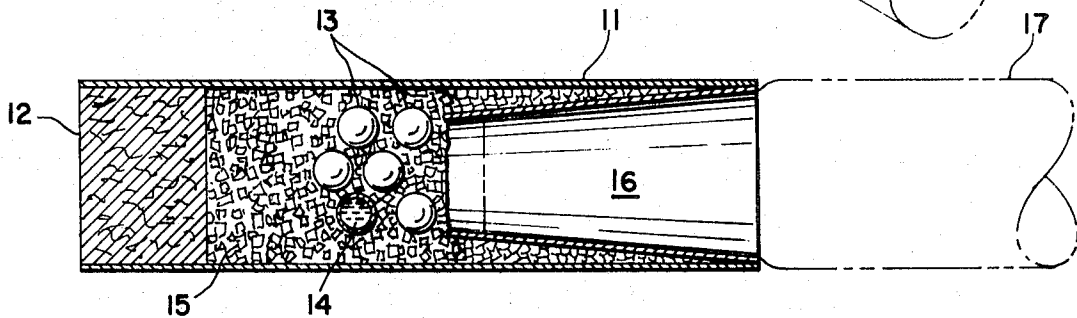
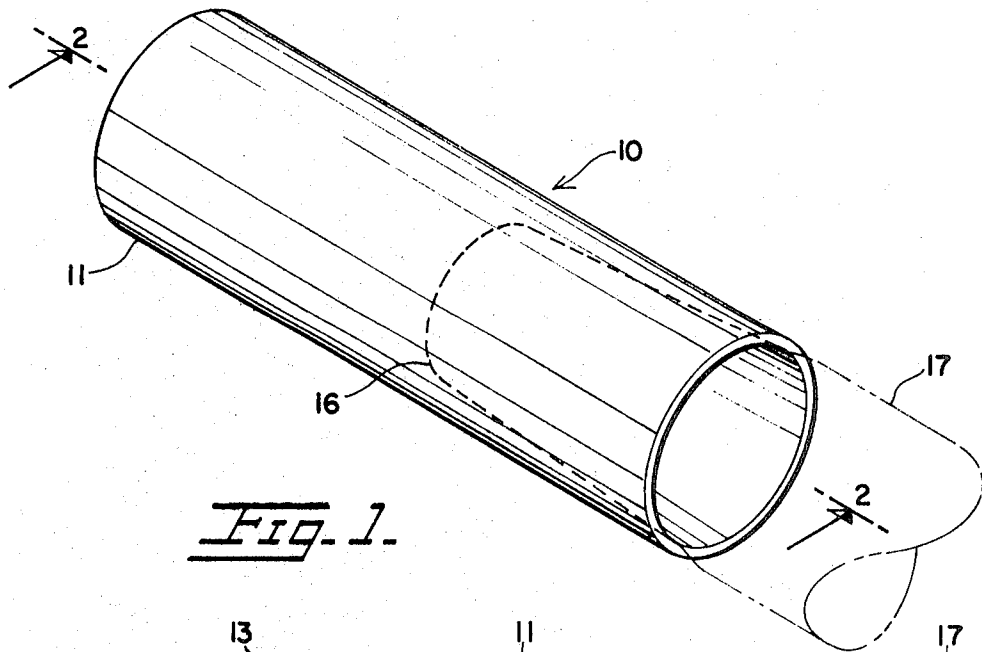
[52] U.S. Cl..... **131/262,**  
131/10.1

[51] Int. Cl..... **A24d 01/06,**  
A24f 13/06

[50] Field of Search..... 131/10.1,  
10.5, 10.7, 173, 210, 211, 212

**ABSTRACT:** This invention relates to a filter for smoking devices wherein the heat caused by combustion of the tobacco products causes the release of encapsulated fluid and the consequent moistening of the filtering material disposed within the device. The fluid is retained in capsules the walls of which are constituted of waxlike material which is melted when the heat of the smoke is concentrated in "jet" form thereon by a truncated conical baffle the smaller end of which is in proximity to the capsules and the larger end is close to the tobacco charge.





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HEAT ACTIVATED FILTER FOR SMOKING DEVICES

The present invention has for its purpose the release of encapsulated fluid in a filter device for smoking products, wherein such release is effected by the heat of the smoke reacting upon the fluid container member, without any action by the smoker other than inhalation as the tobacco in the smoking device is ignited and the smoke drawn therethrough.

The reason for the present concept is the reluctance of some smokers to effect the release of encapsulated fluid by squeezing or pressure or other manual exercise, whereas the advantage of greater smoking pleasure results from the smoke being moistened and cooled as it travels through a wet filter.

For a better understanding of the invention, reference is made to the accompanying drawings, in which like numerals refer to like parts in all figures and in which

FIG. 1 is a perspective view of a filter for a smoking device; FIG. 2 is a cross section taken on line 2--2 of FIG. 1; and

FIG. 3 shows the view of FIG. 2 after the tobacco has been ignited and the smoke has been drawn through the tobacco and into the filter.

With more particular reference to the drawings, it will be seen that in FIG. 1, filter 10 comprises housing 11, and baffle member 16 and cigarette 17 are shown in dotted lines.

FIG. 2 shows plug member 12 and capsules 13 having a fluid content 14, and absorbent, expansible material 15 disposed within the space between plug member 12 and buffer member 16.

In FIG. 3, the absorbent, expansible material 15 is shown expanded by the fluid released from the capsules 13 upon the destruction or partial destruction thereof by the smoke drawn through the filter from the burning tobacco.

The buffer member 16 is of a truncated conical configuration, having the major opening at the outer end of the housing and the minor diameter toward the interior of the housing. Thus, the smoke is readily drawn into the filter and as it travels through the buffer member it becomes concentrated by the narrowing of the channel until, as it reaches the end having the minor diameter, it has the effect of a jet of warm smoke directed upon the walls of the capsules. Said capsules, being made of a waxlike material or other substance readily collapsible upon the application of heat, are thereupon melted or

otherwise partially destroyed, and release their fluid content, which is preferably, but not necessarily, an aqueous solution. Examples of other solutions in filter containing capsules may be found in U.S. Pat. Nos. 3,339,557 and 3,540,456. The small bore at the interior end of the buffer member, together with the continuing inhalation by the smoker, prevents the leakage of fluid back through the buffer member into the tobacco, and said fluid therefore enters the absorbent material, causing said material to expand and fill the interior of the housing, including that space previously occupied by the now partially collapsed capsules.

Such moistened, expanded material then entraps at least a portion of the combustion products released by the burning tobacco, and reduces the temperature of the smoke as it travels therethrough toward the mouth of the smoker. The plug at the mouth end of the device prevents the absorbent material from escaping and allows no part thereof to reach the smoker's mouth.

I claim:

1. In a cigarette filter or the like, a substantially cylindrical housing having a blocking plug of permeable material disposed at the mouth end thereof, a charge of absorbent material immediately upstream therefrom said material being characterized by being expansible when wetted, at least one fluid filled capsule having heat destructible walls disposed within said absorbent material mass and a baffle member of a diameter at one end equal to that of the housing at the upstream end thereof and being placed in proximity to the charge of smokable tobacco, the downstream end of the baffle being narrowed so as to form a "jet" of the warm smoke which is directed at the capsules to effect melting of the walls thereof during smoking.

2. The filter of claim 1 wherein the baffle is in the shape of a truncated cone.

As regards the temperature of the jetstream, the applicant pointed out in the interview, that an effective temperature for melting the capsules walls will be arrived at, if not immediately on lighting the cigarette, then subsequently thereto and when the burning coal approximates the filter charge.

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