

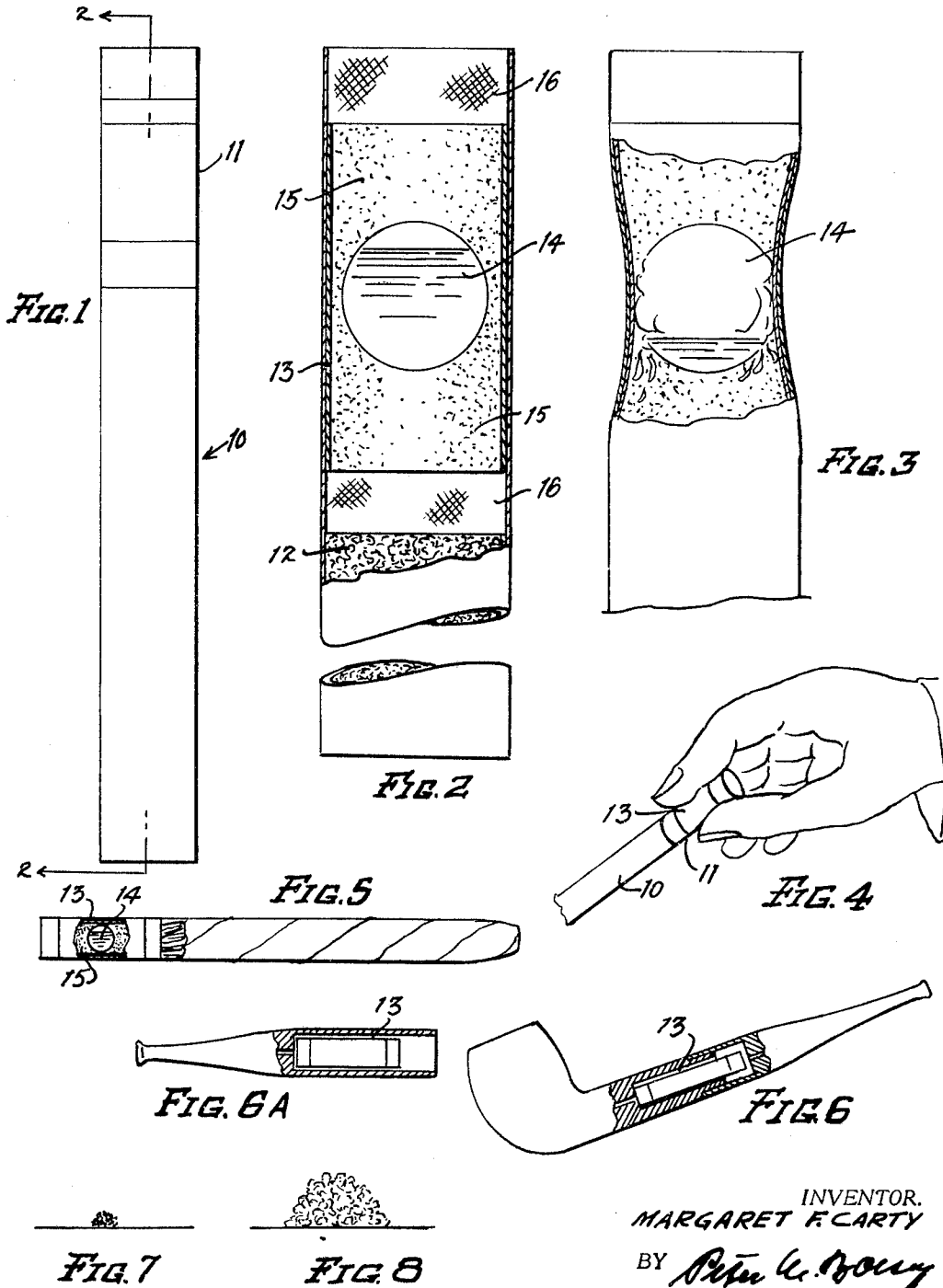
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FILTER ELEMENT FOR SMOKING DEVICES

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FILTER ELEMENT FOR SMOKING DEVICES

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1 Claim

ABSTRACT OF THE DISCLOSURE

This invention relates to a filter for smoking devices, formed of a mass of compressed absorbent material and at least one rupturable capsule having a water content. When the filter mass is squeezed by the fingers, the capsule is broken and the released water, as it is absorbed, causes the absorbent material to expand and fill the void left by the collapsed capsule.

The present invention relates to an improvement over my Patent No. 3,366,121, dated Jan. 30, 1968.

This invention relates to new and useful improvements in filters for cigars, cigarettes and pipes, and has for its object to provide a moist filter which, due to its novel construction and unique combination of parts, will act to reduce the temperature of smoke passing therethrough and which will also retard the passage of tars and nicotine created or released by the combustion of tobacco.

A further object of the invention is to provide a filter element which, due to its inexpensive parts and ease of manufacture, may be produced at a comparatively low cost.

In this invention, I greatly prefer to employ for the filtration purposes specified in said co-pending application a compressed, dried sponge, either natural or synthetic. The said sponge may be finely divided, or may be a body of suitable conformation to be contained within said filter element; or, alternatively, it could be in the form of compressed sponge fibers.

I have found the compressed cellulose sponge as furnished by the O-Cel-O Products Division of General Mills to be particularly suitable for this purpose.

The construction of this invention may employ, in a generally elongated body, the purifying and cooling element of water encapsulated in a container and used in combination with a dried, compressed, water expansible material for absorption of the moisture upon rupture of said container, and at each end of said body, absorbent, permeable material to permit passage of smoke therethrough and at the same time to prevent moistening of the tobacco at the one end of said body, and at the other end thereof, to protect the mouth of the smoker from coming into direct contact with said sponge material.

Upon rupture of the capsule, the compressed spongy material will absorb the fluid thus released, causing said material to expand rapidly and occupy the space filled by the capsule prior to rupture thereof. The draft through the filter element thus moistened will be equally as easy as is the case with the now commonly known filter elements, and the smoke, when it reaches the mouth of the smoker, will be cooler and may also have a lower tar and nicotine content.

The amount of fluid employed should be accurately proportioned to the absorbency of the spongy material used, so as to permit full moistening of the sponge, and thus, expansion of all parts and particles thereof, without extension of moisture beyond the sponge and into the tobacco adjacent the filter element.

In preparing to smoke a cigarette or cigar having the filter element of this invention, said element should be given a twirling and squeezing motion at approximately

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the central portion thereof. Said motion will rupture the capsule and release the fluid, causing the latter to be diffused throughout the said compressed, spongy material, which thereupon expands to occupy the interior of said filter element, as previously explained.

With the above and other objects in view, this invention consists of the novel features, combination and arrangement of parts hereinafter fully described, claimed and illustrated in the accompanying drawings forming part of this application, in which similar characters of reference indicate corresponding parts in all views, and in which:

FIGURE 1 is an elevational view of a cigarette, somewhat enlarged;

FIGURE 2 is an enlarged vertical transverse sectional view, with parts broken off, taken on line 2—2 of FIGURE 1;

FIGURE 3 is a view somewhat similar to FIGURE 2, showing the cigarette subjected to a squeezing and twirling motion for rupturing of the capsule;

FIGURE 4 further illustrates the motion shown in FIGURE 3;

FIGURE 5 shows a part sectional view of the filter element of the present invention, as the same is used in a cigar;

FIGURES 6 and 6A show part sectional views of the filter element of the present invention, as the same would be used in a pipe stem or a holder for a cigar or cigarette;

FIGURE 7 is a view of the dry, compressed spongy material, in finely divided particles; and

FIGURE 8 is a view of the particles of FIGURE 7, after the application of moisture thereto.

Referring more particularly to the drawings, the numeral 10 indicates a cigarette having the usual paper covering, except for the mouthpiece 11, which consists of a resilient, waterproof material.

While the body of said cigarette is substantially filled with tobacco 12, said cigarette has a tubular recess 13 at the end thereof, being the interior of said mouthpiece 11.

A container or capsule 14 filled with a fluid of, for instance, water, and disposed within said tubular recess 13, is made of any suitable material, such as crack-molded plastics, which will break easily upon application of suitable pressure thereto, or flexible moistureproof material which may be ruptured upon like compression.

Adjacent said container or capsule 14, and occupying recess 13, there is provided dried, compressed, spongy material 15, which may be finely divided or may be a body of suitable conformation to surround or partially enclose capsule 14; and masses 16, 16 of fibrous or other absorbent material, of which nature as to permit the passage of air or smoke therethrough, are disposed at opposite ends of said recess 13, the one such mass, adjacent the body of tobacco, serving to protect the latter from contact with moisture upon rupture of the capsule, and the other such mass, at the tip of the cigarette adjacent the smoker's lips, serving to prevent contact of the smoker's lips or tongue with said spongy material, either before or after the moistening thereof.

A similar construction is used in a filter unit for cigars, it being recognized that the recess 13 may have a configuration at the tip thereof differing somewhat from the generally cylindrical form of a cigarette filter.

The said filter element, adapted for insertion in the stem of a pipe or in a holder for a cigar or cigarette, will have the same components, i.e., a capsule containing fluid, preferably water, and adjacent thereto, dried, compressed, water expansible sponge material; and at each end of said element, a permeable mass of fibrous material, whereby the moisture released into said expansible sponge material is contained in said element, and smoke, cooled and cleansed by said moistened sponge, may be drawn through

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said element from burning tobacco to the mouth of the smoker. When thus used in a pipe or a holder, the capsule is ruptured to release the fluid prior to insertion of the element into the pipe or the holder.

It is obvious that changes may be made in the construction and arrangement of parts within the scope of the appended claim, without departing from the spirit of my invention. What I claim as new, and desire to secure by Letters Patent of the United States is:

1. An improvement of a cigarette having a conventional wrapper, and terminating at one end in a resilient, waterproof tube; a recess within said tube having therein a unit comprising at least one rupturable capsule having a liquid content; absorbent, water expansible material adjacent to said capsule whereby upon rupture of said capsule said expansible material is fully moistened and is

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expanded to substantially fill said recess, and at each end of said recess, smoke permeable material; said improvement consisting of said expansible material being in the form of finely divided particles, permitting random disposition thereof around said capsule means and between said capsule means and said smoke permeable material.

References Cited

UNITED STATES PATENTS

3,066,681	12/1962	Cohn	131—10.7
3,327,715	6/1967	Azorlosa	131—10.7
3,366,121	1/1968	Carty	131—10.1

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