

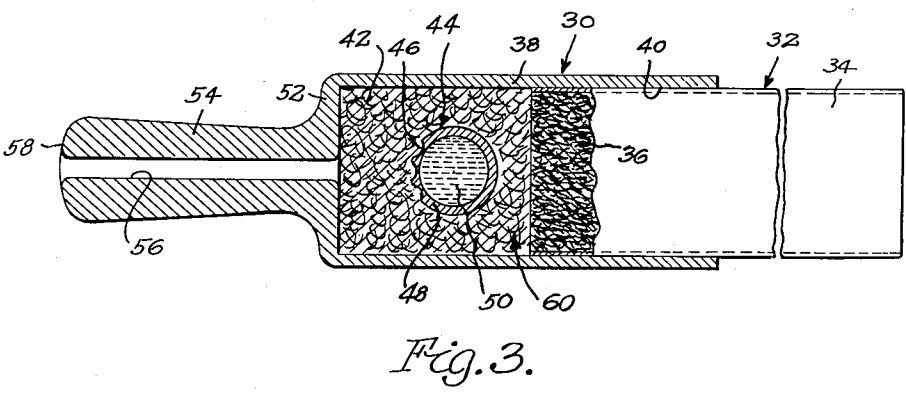
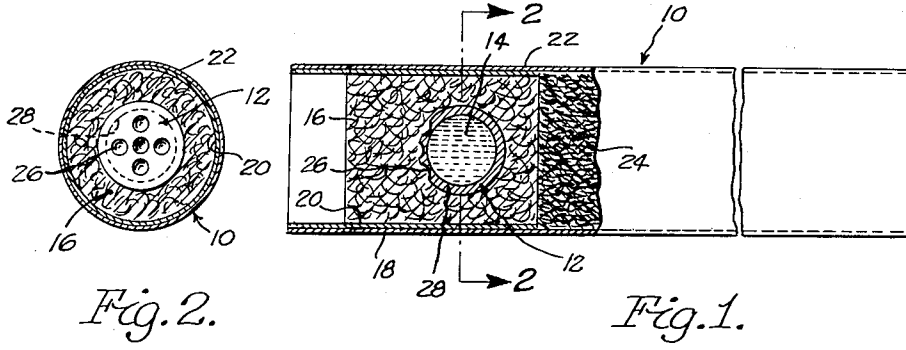
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TOBACCO SMOKING ARTICLE

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TOBACCO SMOKING ARTICLE

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This invention relates to tobacco smoking articles and, in particular, to means for neutralizing or absorbing the harmful ingredients in tobacco smoke.

One object of this invention is to provide a tobacco smoking article, such as a cigar or cigarette, equipped with a rupturable capsule containing a neutralizing substance for the harmful ingredients in tobacco smoke.

Another object is to provide a tobacco smoking article, such as a cigar or cigarette, of the foregoing character, wherein the capsule of neutralizing substance is ruptured by the user merely squeezing the butt of the article in which the capsule is embedded, thereby rupturing the capsule and releasing the substance, which in turn moistens the tobacco or absorbent filtering material adjacent the mouth with the neutralizing substance.

Another object is to provide a tobacco smoking article of the foregoing character wherein the capsule has weakened portions in its wall thereof for facilitating the rupturing thereof.

Another object is to provide a tobacco smoking article of the foregoing character wherein the capsule is mounted in a portion of filtering material, such as a cartridge or plug of cotton or the like mounted rearwardly of the tobacco, so that the neutralizing substance moistens the filtering material interposed between the smoker's mouth and the tobacco.

Another object is to provide a cigar or cigarette holder having a portion of filtering material, such as a cartridge or plug of cotton, in which is mounted a rupturable capsule containing the foregoing neutralizing substance so that the protection can be obtained even though using conventional cigars or cigarettes lacking the built-in capsules.

Other objects and advantages will become apparent during the course of the following description of the accompanying drawings, wherein:

Figure 1 is a central longitudinal section, partly in side elevation, of a tobacco-smoking article, particularly a cigarette, equipped with a rupturable capsule containing a neutralizing substance, according to one form of the invention;

Figure 2 is a cross-section taken along the line 2—2 in Figure 1, with the capsule in elevation; and

Figure 3 is a longitudinal section through a modification of the invention consisting of a cigar or cigarette holder equipped with a neutralizing capsule and filter, for use with conventional cigars or cigarettes.

It has long been known that tobacco smoke contains ingredients which are harmful to the health of the smoker, such as nicotine, pyridine, picoline, hydrogen sulfide, ammonia, methyl alcohol and hydrocyanic acid, lutidine, collidine, dimethylpyridine and trimethylpyridine. Attempts to filter out these harmful components of tobacco smoke have hitherto been unsatisfactory other than on a laboratory scale, because of the difficulty of devising an adequate filter and also of making a suitable

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neutralizing substance always available and in a fresh condition.

The present invention provides means for making the neutralizing substance constantly available in a fresh condition by encasing it in an easily rupturable capsule located in the butt of the tobacco smoking article, such as a cigar or cigarette, or in the base of a smoking tobacco holder such as a cigarette or cigar holder. The capsule maintains the neutralizing substance, such as a liquid, paste or jelly, in a fresh condition over an indefinite period of time, because it is thus kept sealed off from the atmosphere yet it is instantly and easily brought into action by squeezing the portion of the article or device containing the capsule in order to rupture the capsule and distribute the neutralizing material in the path through which the tobacco smoke must pass in order to reach the mouth of the smoker. The neutralizing substance by chemical action attacks the harmful ingredients of the tobacco smoke and converts them to harmless chemical compounds, thereby preventing them from reaching the smoker's mouth and lungs.

Referring to the drawings in detail, Figure 1 shows a tobacco smoking article, generally designated 10, shown for purposes of example as a cigarette equipped with a rupturable capsule, generally designated 12, containing a neutralizing fluid substance in the form of a liquid, paste or jelly 14. This, when released, passes into and moistens a charge, cartridge or plug 16 of filtering material, such as cotton batting inserted in the rearward portion or butt 18 of the article 10 and encased in a tubular liner 20 of thin cardboard or other suitable flexible stiffening material for the ordinary cigarette paper wrapper 22 in which the tobacco 24 is rolled. The capsule 12 is spaced from the sides and from the front and rear ends of the filter body 16.

The capsule 12 may be of any suitable material, such as gelatine, or polyethylene plastic, natural or synthetic rubber or a material having similar flexible yet rupturable properties. In order to increase the ease of rupturing the capsule 12, it is optionally provided with weakened portions or indentations 26 by thinning the wall 28 of the capsule. The indentations 26 are shown as dimples but may be otherwise shaped, and may be directed toward the portion of the filtering material 16 which it is desired to moisten with the neutralizing substance 14.

The neutralizing substance 14 within the capsule 12 may consist of an organic acid such as tannic acid, tartaric acid or citric acid, ferrous sulfate, ferric chloride, ferrous tartrate, or the double sulfate of ferrous oxide and ammonia, or similar salts of the iron group, namely salts of iron, manganese, nickel and cobalt with mineral acids such as hydrochloride or sulfuric acids or with organic acids such as tartaric or citric acid.

In the use of the invention, let it be assumed that the tobacco smoking article 10, such as a cigar or cigarette, is manufactured with the capsule 12 contained in the butt thereof in the filtering charge. Prior to lighting the cigarette, the user places the butt thereof between his thumb and forefinger and squeezes it so as to compress the wrapper and tube 20, squeezing the capsule 12 so that it ruptures or breaks. Such rupture or breakage permits the neutralizing substance 14 to spurt out into the surrounding charge 16 of filtering material, moistening it with the neutralizing substance. If weakening portions 26 are used in the capsule casing or wall 28, the breakage or rupture will occur at that location and the neutralizing substance will flow outward in that direction.

The smoker then lights the outer end of the article 10 and smokes it in the usual way. As the tobacco 24 is burned, the harmful ingredients heretofore mentioned pass along with the smoke through the moistened filtering material charge 16 where they are subjected to chem-

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ical action which converts their harmful ingredients to harmless materials which are either absorbed in the filtering charge 16 or passed harmlessly into the smoker's mouth. Thus, the present invention protects the health of the smoker by shielding his mouth and lungs from the above-mentioned harmful ingredients.

The modification of the invention shown in Figure 3 consists of a neutralizing holder, generally designated 30, adapted to receive a conventional tobacco-smoking article 32, such as a cigarette or cigar having the usual wrapper 34 containing tobacco 36. The holder 30 consists of a cylindrical or tubular portion 38 having a bore 40 into which the article 32 is inserted, and also having a charge 42 of filtering material similar to the filtering material 16 of Figure 1 and similarly containing a rupturable capsule 44 with weakening portions 46 in the side wall 48 thereof. The capsule 44 in turn contains neutralizing material 50 in the form of liquid, paste or jelly, the same as the neutralizing substance 14 described above.

The holder 30 is preferably made of a flexible or squeezable material such as polyethylene plastic so as to permit the tubular portion or side wall 38 thereof to be collapsed by squeezing, in order to rupture the capsule 44. The holder 30 is provided with an end wall 52 from which a mouthpiece 54 containing a smoke passageway 56 projects rearwardly to the rearward end 58 thereof.

The operation of the modification of Figure 3 is similar in principle to that of the form of the invention shown in Figure 1. The holders 30 are preferably sold separately from the cigarettes or cigars 32, and the latter inserted in the bore 40 of the former when smoking is to commence. Before lighting the cigar or cigarette 32, the user holds the tubular portion 38 outwardly of the capsule 44 between his thumb and forefinger and squeezes upon it, rupturing the capsule 44 and causing the neutralizing liquid, paste or jelly 50 to permeate the filtering charge 42 as before and thereby neutralize the harmful ingredients in the tobacco smoke when the smoker draws the smoke through the filtering charge 42 during smoking.

It will be evident from Figures 3 that the holder 30 may consist of the stem of any type of smoking device, the stem being of flexible or collapsible material in order to enable rupturing the capsule 44 in the above-described manner.

It will also be evident from Figure 3 that the cartridge, generally designated 60, comprising the assembly consisting of the plug 42 of absorbent or filtering material containing the rupturable capsule 44 with its harmful ingredient neutralizing fluid 50, may be sold as a unit separate from the holder 30 and inserted by the smoker in his own cigarette or cigar holder. In such instance, the smoker preferably squeezes the cartridge 60 to rupture the capsule 44 and then instantly pushes it into the holder before the cartridge can expand by its absorption of the neutralizing liquid 50. The cartridge, for example, can be pushed into the holder by means of a pencil or by the cigarette itself, while it is being inserted after the insertion of the cartridge 60. After the cartridge has been used sufficiently to require renewal, it is easily removed from the holder by means of a penknife, hairpin, bobby pin, match, toothpick or any other similar implement.

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From Figure 1 it will be seen that the wrapper 22 and liner 20 are preferably extended rearwardly of the filtering charge, cartridge or plug 16 a sufficient distance to prevent the tongue from contacting the filtering material. In this manner, the smoker avoids any unpleasant or unfamiliar taste which might otherwise be associated with or arise from the neutralizing substance which moistens the filtering material 16.

What I claim is:

1. A tobacco smoking article having means therein for neutralizing the harmful ingredients of tobacco smoke, said article comprising a wrapper, an elongated mass of tobacco arranged in closely packed form in said wrapper and having a forward end adapted to be ignited and a rearward end, a filter body of absorbent material disposed adjacent said rearward end, a flexible tubular member enclosing said filter body, a collapsible hollow capsule disposed within said filter body at a location spaced from the sides and from the front and rear ends of the filter body, said capsule having a wall sufficiently weak to be rupturable in response to the application of finger pressure thereto, and a neutralizing fluid for harmful tobacco smoke ingredients disposed within said capsule whereby the user by squeezing the tubular member and the portion of said filter body containing said collapsible capsule causes breakage thereof and ejection of said neutralizing fluid into the absorbent material with consequent diffusion of said fluid through said absorbent material.

2. A tobacco smoking holder having means therein for neutralizing the harmful ingredients of tobacco smoke, said holder comprising a flexible tubular member having a socket therein configured to receive the rearward end of an elongated roll of tobacco, a mouthpiece extending rearwardly from said tubular member and having a smoke passageway therethrough, a filter body of absorbent material disposed in said tubular member at the rear end of said socket, a collapsible hollow capsule disposed within said filter body at a location spaced from the sides and from the front and rear ends of the filter body, said capsule having a wall sufficiently weak to be rupturable in response to the application of finger pressure thereto, and a neutralizing fluid for harmful tobacco smoke ingredients disposed within said capsule, whereby the user by squeezing the tubular member and the portion of said filter body containing said collapsible capsule causes breakage thereof and ejection of said neutralizing fluid into the absorbent material with consequent diffusion of said fluid through said absorbent material.

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