

March 21, 1967

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3,310,056

PARTITION DISC FOR INHALE-PROOF CIGARETTES

Filed Jan. 14, 1964

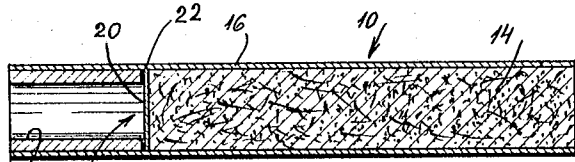


Fig. 1.

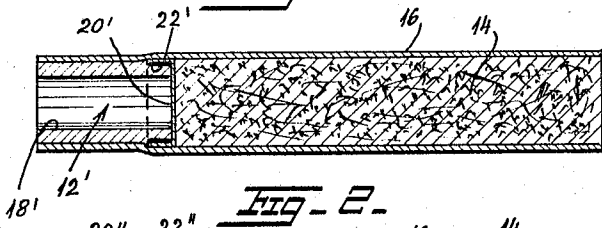


Fig. 2.

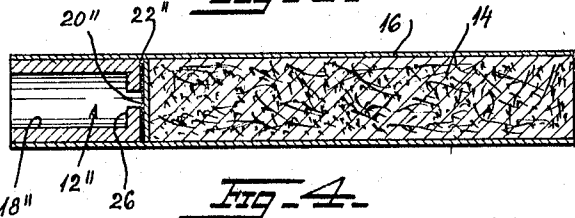


Fig. 4.

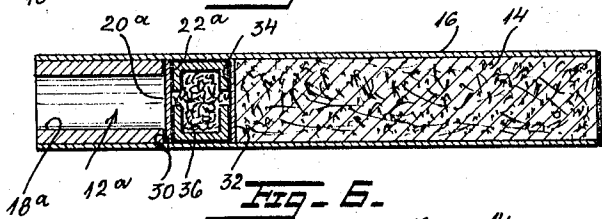


Fig. 5.

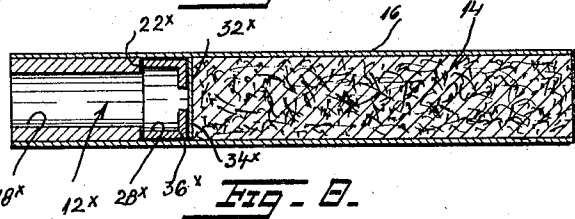


Fig. 6.

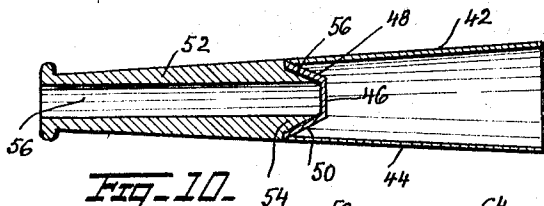


Fig. 10.

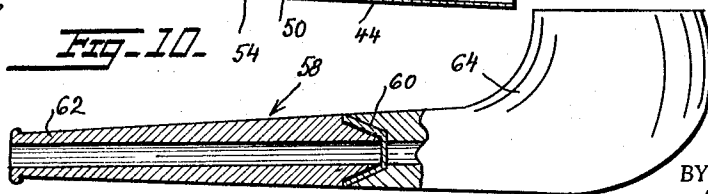


Fig. 11.

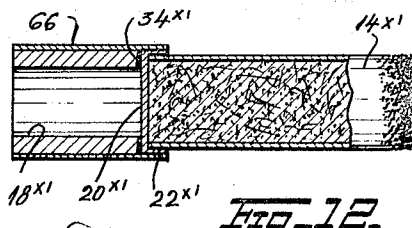


Fig. 12.

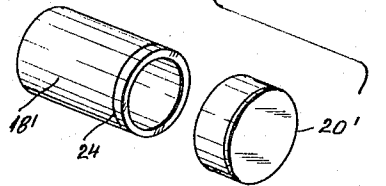


Fig. 3.

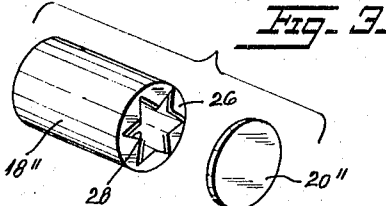


Fig. 5.

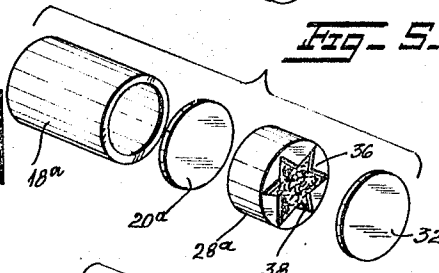


Fig. 7.

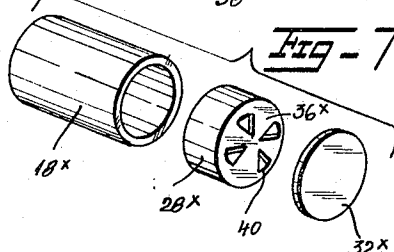


Fig. 9.

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3,310,056
**PARTITION DISC FOR INHALE-PROOF
 CIGARETTES**

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Filed Jan. 14, 1964, Ser. No. 337,549

1 Claim. (Cl. 131-10.5)

The present invention concerns the novel construction of a filter for a smoker's article and more specifically a filter of the air filter type, with selective permeability.

I have discovered that a certain type of paper having a certain texture is highly efficient in permitting the impregnated air of tobacco together with the aroma and flavor of the tobacco to pass through, and is equally efficient in preventing the smoke itself and the tar and nicotine from passing therethrough.

In practicing my invention, a disc formed of this paper is interposed between the mouthpiece and the tobacco insert of a cigarette and the like so that only the impregnated air with the aroma and flavor of the tobacco passes into the mouthpiece and the smoke itself and the tar and nicotine carried by the smoke is prevented from passing into the mouthpiece.

The filter is easily adaptable for the smoking of tobacco or other products, and one of its purposes is to prevent the hazards involved in the inhaling of smoke, tar, nicotine, etc.

The principal object of this invention is to allow the enjoyment of clean tobacco flavor, while preventing the distasteful smoke and hazardous by-products from entering the mouth of the smoker.

A primary object of the present invention is to provide a novel construction and assembly of a filter device for a cigarette mouthpiece and which comprises a novel filter insert arranged within the end of the cigarette which is received in the mouth.

Another object of the invention is to provide a porous filter element for a cigarette which can be produced in quantities and incorporated with a cigarette during the manufacture thereof by commercial practical methods at negligible expense and which will permit the cigarette to draw naturally and which will not pass any smoke and will not change the taste to which the smoker is ordinarily accustomed.

A further object of the invention is to provide a cigarette with a filter that is effective in screening out tar and nicotine contained in the smoke.

For further comprehension of the invention and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

FIG. 1 is a sectional view through the longitudinal center of a cigarette embodying one form of the invention.

FIG. 2 is a similar view of a cigarette embodying a modified form of the invention.

FIG. 3 is a spread perspective view of the mouthpiece and filter element of FIG. 2.

FIG. 4 is a view similar to FIG. 1 of a cigarette embodying a second modified form of the invention.

FIG. 5 is a view similar to FIG. 3 of the mouthpiece and filter element of FIG. 4.

FIG. 6 is a view similar to FIG. 1 of a cigarette embodying a third modified form of the invention.

FIG. 7 is a view similar to FIG. 3 of the mouthpiece and filter element of FIG. 6.

FIG. 8 is a view similar to FIG. 1 of a cigarette embodying a fourth modified form of the invention.

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FIG. 9 is a view similar to FIG. 3 of a mouthpiece and filter element of FIG. 8.

FIG. 10 is a view similar to FIG. 1 of a cigarette holder embodying a fifth modified form of the invention.

5 FIG. 11 is a sectional view through the center of a pipe embodying a sixth modified form of the invention.

FIG. 12 is a sectional view through the longitudinal center of a burnt cigarette embodying a seventh modified form of the invention.

10 Referring now to the drawings in detail, in FIG. 1 there is shown a cigarette 10 in section equipped with a filter assembly 12 that is made in accordance with the invention. The cigarette tobacco 14 is conventional as is the paper wrapper 16. The tobacco 14 terminates 15 short of the mouthpiece end of the cigarette to accommodate the filter assembly 12.

The filter assembly 12 comprises a short tube 18 of paper, open at both ends and fitted into the mouthpiece end of the cigarette. A disc 20 of filtering paper is secured to the inner end of the tube sealing off said end.

I have found that white tissue weight paper ordinarily used for wrapping purposes is very satisfactory for this purpose. This paper may be of the order of 10, 15 or 18 pounds per ream of 500 sheets. These sheets are known as Fourdrinier sheets in the trade and are made on flat machines. The sheets are capable of tearing in straight lines. The bursting strength is 15 points on a Mullen tester, with not less than 5 sheets tested together.

The disc is secured by adhesive 22 to the end of the tube. The paper material may be medicated if desired.

In use, the cigarette-taste-impregnated flavored air from the tobacco passes through the paper disc 20 while the smoke, tar and nicotine are screened off.

The modified form of filter assembly 12' shown in FIGS. 2 and 3 differs from the assembly 12 of FIG. 1 merely in that the tube 18' is reduced at its inner end as indicated at 24 to receive the filter element which is in the form of a cup 20' and which is secured thereto by adhesive 22'.

40 In FIGS. 4 and 5 another modified form of filter assembly 12'' is shown wherein the tube 18'' has its inner end formed with a wall 26 with a star-shaped opening 28 cut therein. The disc 20'' is fastened to the wall 26 by adhesive 22''.

45 The modified form of filter assembly 12^a shown in FIGS. 6 and 7 differs from filter assembly 12 in that a second tubular member 28^a shorter than the tube 18^a has one end secured by adhesive 30 to the disc 20^a and has its other end secured to a disc 32 by adhesive 34. The tubular member 28^a has end walls 36 both of which are formed with star-shaped openings 38.

50 The tissue filtering paper used for the discs 20^a and 32 may be of the order of 10 pounds per ream. White cotton placed in the tubular member 28^a has remained white and unstained proving that the smoke with its attendant tar and nicotine is not getting through to the mouthpiece.

55 The modified form of filter assembly 12^x shown in FIGS. 8 and 9 differs from the form of FIG. 6 in that the short tubular member 28^x has only one end wall 36^x, the other end being opened and secured to the inner end edge of tube 18^x by adhesive 22^x. End wall 36^x is formed with spaced openings 40. Disc 32^x is secured to end wall 36^x by adhesive 34^x.

60 In FIG. 10, a sectional cigar or cigarette holder is shown having a flaring tubular body portion 42 and a mouthpiece 52 fitted in one end of the body portion. The mouthpiece 52 is formed with an enlarged head portion 54 with a slanting wall 56. A filtering element in the form of a paper 50 is stretched over the head portion 54 of the mouthpiece and clamped between the adjacent edges of the body portion 42 and mouthpiece 52.

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A supported cigar or cigarette (now shown) is inserted in the body portion 42 and seats on the flat portion 46 of the filtering element. In use, only the cigarette-taste-impregnated air passes through the flat portion 46 of the filtering element, out through the bore 56 of the mouth-piece, the smoke, tar and nicotine being screened off by the filtering element.

FIG. 11 illustrates a smoking pipe 58 embodying the invention in the form of a filtering paper 60 interposed between the end of the stem 62 and the bowl 64.

The modification shown in FIG. 12 differs from the modified form shown in FIG. 2 merely in that the cup-shaped filtering paper element 20^x disposed between the tubular member 18^x and the cigarette 14^x is reversed so as to receive the end of the cigarette. The element 20^x is secured to the cigarette by adhesive 22^x and to the tubular member 18^x by adhesive 34^x. A separate tubular sheath 66 covers the tubular member 18^x and the cup-shaped element 20^x.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claim.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

A conventionally shaped cigarette which has a wrapper and tobacco comprising a filter assembly including a

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paper tube of a thickness substantially greater than the wrapper and forming an extension of the cigarette, a cup-shaped filtering element interposed between the inner end of the tube and the inner end of the tobacco, said filtering element receiving the adjacent end of the cigarette, and a tubular paper sheath covering the tube coextensive with the end of the paper tube and extending over the wrapper to completely cover the cup-shaped element, the said filter element being secured to the cigarette by an adhesive on the wrapper and the paper tube, and said cup-shaped filtering element being made of paper of tissue weight corresponding to that of Fourdrinier sheets of the order of ten to eighteen pounds per ream of five hundred sheets.

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