Aug. 16, 1960 S. BALKIND 2,949,116

ADJUSTABLE CIGARETTE FILTER

Filed April 1, 1957

Fig. 1

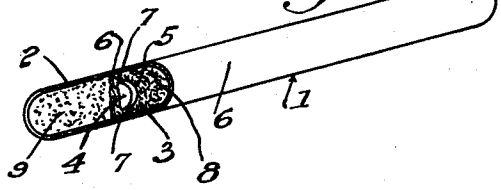


Fig. 2

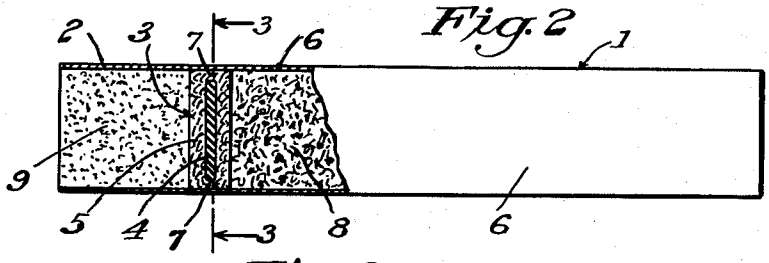


Fig. 3

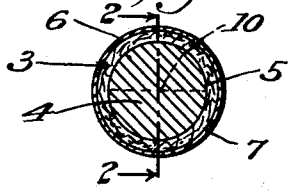


Fig. 4

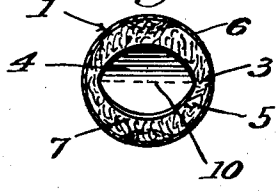


Fig. 5

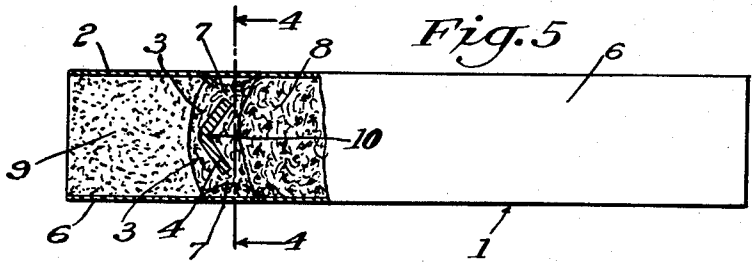
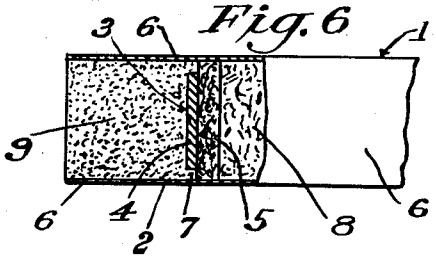


Fig. 6



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ADJUSTABLE CIGARETTE FILTER

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1 Claim. (Cl. 131—10)

My invention relates to filters for cigarettes, and more particularly to an adjustable filter for cigarettes, and the general object of my invention is to provide the most effective way of screening out tar and nicotine from a cigarette during the process of smoking the same. My filter is not a mouthpiece nor a tube, and it is not attached to the end of a cigarette. My filter is placed inside, at the inner end of a cigarette, and is covered with tobacco or a conventional filter material.

The results of my filter are astonishing. It will actually extract tar from a cigarette which, so far as known to the applicant no filter now on the market will do.

The principal idea of my invention is that the smoke of a cigarette must be trapped inside of the same by an installed absorber, by means of which the tar and nicotine will be effectively screened out of a cigarette thereby, which, of course, is visible from the outside and may be definitely observed and determined by the smoker of the cigarette.

My new filter will reduce the drawing power of the smoker of the cigarette, however, but the smoker can, upon lighting the cigarette, adjust his drawing power to his own liking. Anyway, my cigarette will draw as easily as any cigarette on the market today, whether filtered or not, but the smoker of my cigarette may adjust the filter himself for better drawing power, and such adjustment will not affect the filtration of the cigarette in any way thereafter.

Other objects and advantages of my invention will appear hereinafter as this specification progresses.

My invention is illustrated in the annexed drawing, forming a part of this specification, in which:

Fig. 1 is a perspective of my invention shown embodied in a cigarette partly broken away to show details of construction.

Fig. 2 is a view partly in longitudinal section and partly in side elevation of my invention.

Fig. 3 is a cross section of Fig. 2 taken on line 3—3 of Fig. 2.

Fig. 4 is a cross section of Fig. 5 taken on line 4—4 of Fig. 5.

Fig. 5 is a view like Fig. 2, except that the tar and nicotine absorber is shown in a different position.

Fig. 6 is a view of a modification of my invention.

Referring more particularly to the drawing, in which the same parts of my invention are designated by the same reference numerals in all of the figures thereof, my invention is shown applied to a cigarette designated **1**, on one end of which is formed a mouthpiece **2**, such as a paper or cork tip.

Within the inner end portion of the cigarette **1**, surrounded by the mouthpiece **2**, I place my tar and nicotine absorber **3**, which comprises a round imperforate disk **4** made from liquid absorbing paper of a predetermined weight, and covered completely with cotton **5**. The disk absorber **3** is of slightly less diameter than the inner

side of the paper wrapper **6** of the cigarette **1**, which provides a narrow annular space **7** surrounding said absorber **3** between the peripheral edge of said absorber and the inner side of the wrapper **6** of the cigarette **1**, through which annular space and the cotton **5** in said space and around the absorber **3**, as well as through said absorber, tar and nicotine are drawn with the smoke in smoking the cigarette, which augments the filtering of the tar and nicotine from the cigarette in smoking the same. Within the cylindrical wrapper **6** of my cigarette **1**, forwardly of the absorber **3** I place cigarette tobacco **8** and in the inner end of my cigarette inwardly of said absorber I place a suitable filler material **9**.

In the form of my invention shown in Figs. 3, 4 and 5 of the drawing, I score the absorber disk **4** diametrically with a diametrical score line **10**, on which line the absorber disk **4** may be bent into a V-shape configuration.

As illustrated in Fig. 5 of the drawing, the absorber disk **4** as shown in Fig. 4 of the drawing, is placed in the inner end portion of my cigarette, as aforesaid, and the smoker, after lighting my cigarette may then regulate the drawing power of smoking the cigarette, by applying a little pressure with his thumb and fingers to opposite sides of the cigarette wrapper at points at opposite sides of the score line **10** of said disk **4** of the absorber **3**, and upon bending said cigarette wrapper **6** and the adjacent edges of said absorber disk **4** also inwardly, at opposite sides of the score line **10**, said absorber disk is bent into substantially V-shape form, as shown in Fig. 5 of the drawing, in which form said disk **4** remains, when the smoker releases his thumb and fingers from the cigarette wrapper **6**, while the cigarette wrapper expands outwardly back into its normal cylindrical form, whereby the annular space **7** between the periphery of said disk opposite said score line **10** and the inner side of the cigarette wrapper **6** is enlarged opposite said score line **10**, as shown in Fig. 5 of the drawing, thus enlarging the drawing space **7** between the absorber disk **4** and the cigarette wrapper **6** opposite score line **10** (Fig. 4), and increasing the drawing power of the smoker of my cigarette. In other words the drawing power of the smoker of my cigarette may be varied by varying the space between the outer edge of the absorber **3** and the inner side of the cigarette wrapper **6**, as aforesaid.

In the modification of my invention shown in Fig. 6 the disk **4** of the absorber **3** is placed only on the rear or inner side of the cotton **5**.

No thimble, open or covered, nor any cotton plug, strainer or tube is used in the practice of my invention. It involves a completely new method and operation, with amazing results in screening out tar and nicotine, of which there is no suggestion in any filtered cigarette now on the market. The proof of applicants claim can be found inside of the smoked butt of a cigarette in which my filter structure is placed. It consists of a brownish heavy liquid, which scientists refer to as "tar in burning tobacco." This is the suspected chemical which makes the smoker a victim of lung cancer.

By means of my cigarette 80% of the tar may be removed from a cigarette.

I claim:

In a cigarette structure, the combination of: a paper tube having two sections of tobacco filling therein of unequal size the smaller being at the mouth of said tube; an imperforate, substantially circular, liquid absorbent disk located between said sections, said disk being of a diameter less than the interior of said tube whereby the peripheral edge of said disk defines a narrow annular space between it and the inner wall of said tube; and a

mass of fibrous filtering material completely surrounding said disk and being disposed on both sides thereof and in said narrow annular space whereby said fibrous mass fills said space to support said tube wall around said space and locate said disk with its edge in spaced relation with the inner surface of said tube, said fibrous mass in said space also serving to filter smoke by-passing said disk, the size of the annular space being adjustable by external pressure on said tube in the region of said disk in order to enlarge said space by compressing said disk while still maintaining said space filled with said fibrous mass.

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