March 19, 1963 N. H. PARK 3,081,776

CIGARETTE COAL ANCHOR FOR FILTER CIGARETTE

Filed June 10, 1960

Fig. 1

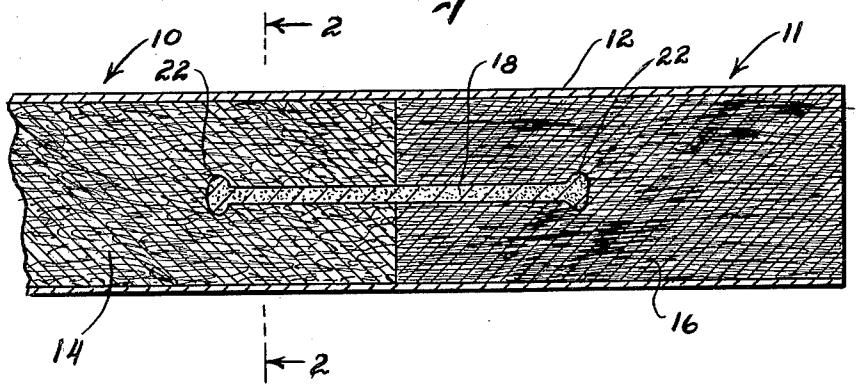


Fig. 2

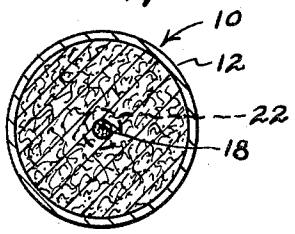


Fig. 3

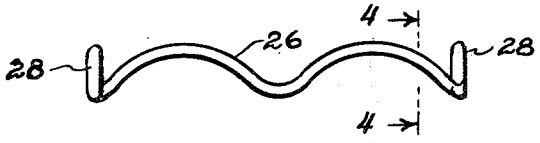


Fig. 4

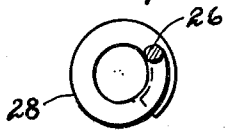


Fig. 5

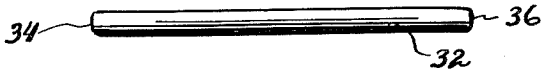
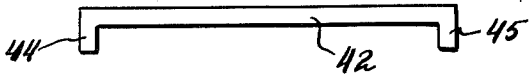


Fig. 6



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CIGARETTE COAL ANCHOR FOR FILTER CIGARETTE

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1 Claim. (Cl. 131—4)

This invention relates to cigarettes.

Cigarettes are made so that the hot coal of a burning cigarette does not drop from the cigarette, and even the cooled ash does not drop off unless the cigarette is jarred. With the advent of filter cigarettes, however, the hot coal often drops off the filter if the cigarette is burned back close to the filter. The coal sometimes drops suddenly without first showing any signs of becoming detached, and this presents a fire hazard, particularly to the clothes of the smoker.

It is an object of this invention to provide a cigarette construction in which the coal of the cigarette is anchored to the filter and can not drop off, even when the cigarette is jarred violently.

More particularly, it is an object of the invention to connect the tobacco portion to the filter of a cigarette by a mechanical anchor having one end embedded in the tobacco and the other end embedded in the filter material of the filter.

Another object is to provide a mechanical connection between the filter of the cigarette and the tobacco-containing portion, which connection is inexpensive and does not affect the appearance or the smoking qualities of the cigarette.

Other objects, features and advantages of the invention will appear or be pointed out as the description proceeds.

In the drawing, forming a part hereof, in which like reference characters indicate corresponding parts in all the views;

FIGURE 1 is a sectional view through one end of a cigarette showing the filter connected with the tobacco-containing portion of the cigarette by an anchor, in accordance with this invention;

FIGURE 2 is a sectional view taken on the line 2—2 of FIGURE 1;

FIGURE 3 is a side elevation showing another form of anchor that can be used in place of that shown in FIGURE 1;

FIGURE 4 is a sectional view on the line 4—4 of FIGURE 3; and

FIGURES 5 and 6 are views similar to FIGURE 3 but showing other forms of the invention.

The cagirette shown in FIGURE 1 includes a tobacco-containing portion 10 and a filter 11. A paper wrapper 12 extends for the full length of the cigarette and forms the outside casing of both the tobacco-containing portion 10 and the filter 11.

The tobacco in the portion 10 is indicated by the reference character 14 and the filter material in the filter 11 is indicated by the reference character 16.

An anchor 18 is located adjacent to the longitudinal axis of the cigarette. The forward end of the anchor 18 extends into the tobacco 14, preferably for a distance equal to approximately the diameter of the cigarette. The rearward end of the anchor 18 extends into the filter material 16 and terminates at a substantial distance forward from the tip end of the cigarette. In the preferred construction this distance of the anchor from the tip end is equal to at least approximately the diameter of the filter.

As the cigarette burns, and the hot coal approaches the

filter 11, the hot coal and its ashes are mechanically supported by the anchor 18.

The anchor 18 may be made of various materials. Metal has proven very satisfactory. Although metal conducts heat from the hot coal to the filter material, the amount of heat conducted is not sufficient to burn the filter material and loosen the grip of the filter material on the anchor. The anchor 18 is preferably not made of copper, however, since hot copper has been found to adversely affect the smoke.

Ceramic anchors can be used, such as porcelain. Ceramics have the advantage of being inert, even when heated, and their heat conductivity is low. Metal alloys can be used and also plastic materials which are capable of withstanding the heat of the cigarette coal. Charring of the anchor is not objectionable so long as the strength is not reduced too much, and so long as no objectionable taste is imparted to the smoke. The anchor can be of composite construction using various combinations of the materials described herein.

The anchor 18 is shown with a knob 22 at each end. These knobs hold the anchor more firmly in the tobacco 14 and the filter material 16.

When the anchor 18 is not provided with knobs 22 on both ends, it can have a knob on one end only for securing it in the tobacco 14. The filter material 16 is generally of such a nature that a knob 22 in the filter material has less effect in increasing the grip of the anchor.

Another shape of anchor is shown in FIGURE 3. In this figure, an anchor 26 is made of a wire or stiff thread of generally helical shape; though in the illustrated construction the end convolutions 28 are provided with little or no pitch. When the anchor 26 is used in a cigarette, it may have one half of its length in the tobacco and the other half in the filter, there being at least one complete convolution of the anchor in the tobacco and one in the filter.

FIGURE 5 shows the simplest form of anchor. In this figure an anchor 32 is made of uniform diameter throughout its full length. The ends may be cut off at right angles to the axis, or they may be rounded. In FIGURE 5 one end 34 is substantially flat contour and the other end 36 is rounded. These constructions are merely illustrative and it will be understood that both ends can be the same.

Another form of anchor is shown in FIGURE 6. In this figure an anchor 42 is U-shaped with sides 44 and 45 of the U located at opposite ends of the anchor. These extending sides 44 and 45 can be used to hold the ends of the anchor more firmly in the tobacco and the filter. They provide a tighter holding than the knobs 22 of FIGURE 1. The mid section of the anchor 42 can be located along the longitudinal axis of the cigarette; or the anchor 42 can be located so that the ends 44 and 45 are centrally located within the cross section of the cigarette. This puts the mid section of the anchor 42 somewhat to one side of the longitudinal axis.

Other shapes of anchors can be used. The shape which is most desirable for a particular cigarette depends upon various factors such as the method of attaching the filter, the tightness of the tobacco and the kind of filter material used. A straight anchor such as the anchor 32, can be pushed into the tobacco after it has been packed, and can be pushed into the filter material from one end. For conventional cigarettes, the straight anchor 32 provides a sufficiently strong connection with the tobacco and the filter to accomplish the purposes of this invention. It can even be used to hold the filter on the cigarette without other attachment.

The anchor 18 shown in FIGURE 1 can also be pushed into the tobacco and the filter after the tobacco and filter

material are packed in place, provided that the knobs are not too large. In the preferred construction these knobs are preferably not more than twice the uniform-diameter portion that connects them.

The anchors 26 and 42, shown in FIGURES 3 and 6, respectively, must be placed in the tobacco and the filter material during the manufacture of the cigarette and before the tobacco and filter material are packed in place. These anchors 26 and 42 obtain an "under-cut" grip on the tobacco and the filter material, and such a construction is not necessary unless the tobacco and/or filter material are loosely packed.

For cigarettes having the tobacco firmly packed, but the filter material very loose, a modified construction can be used for the anchor, having the opposite ends of the anchor of different construction. In such a case, the end of the anchor which obtains an under-cut grip may be built into the portion of the cigarette which holds it, and then the other end may be inserted into the previously packed material of the other portion of the cigarette.

The preferred constructions have been illustrated and described, but other modifications can be made and some features can be used in different combinations without departing from the invention as defined in the claim.

What is claimed is:

A filter cigarette including a paper wrapper, and filler material within the wrapper including tobacco, extending for most of the length of the cigarette, and a different material within the wrapper at one end portion thereof and comprising a filter for products of combustion of the tobacco, the tobacco having a rearward end face, and the filter material completely filling the interior cross section of the cigarette for a substantial longitudinal distance lengthwise of the cigarette and having a forward end face directly confronting said rearward end face at a

region of discontinuity of the filler material, the wrapper extending across said region whereby said wrapper will hold the tobacco and filter in assembled relation with one another, and means for holding the tobacco and filter together after the wrapper burns back to said region, including an elongated anchor made of a stiff, fire-resistant material having relatively short portions extending generally transverse to the axis of the cigarette and located at both ends of the anchor, which are of greater cross-section than the cross-section of the anchor between the end portions, said elongated anchor being disposed so as to be generally parallel to the axis of the cigarette, one end portion being embedded entirely in the tobacco and the other embedded entirely in the filter, the change in cross-section where the end portions merge with the length of the anchor between them being abrupt so as to form shoulders on the anchor for preventing endwise movement of the anchor, said anchor being substantially shorter than the tobacco filler and the filter and terminating a substantial distance in from the mouth end of the filter and being supported against lateral displacement after the tobacco has burned away by the portion of the anchor that extends into the filter.

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