

[54] CIGARETTE FILTER

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[22] Filed: **Sept. 25, 1970**

[21] Appl. No.: 75,331

[52] U.S. Cl. 131/261 B, 131/10.5

[51] **Int. Cl.**..... **A24d 01/04**

[58] **Field of Search** 131/10-10.9, 261, 262, 9

[56] **References Cited**

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[57] ABSTRACT

A cigarette filter formed from an aluminum foil base carrier with a first corrugated strip made of charcoal impregnated filter paper attached to the base. A second strip of corrugated filter paper is attached to the base in parallel spaced relation to the charcoal impregnated strip. The base is rolled into a spiral thereby causing the filter strips to roll along with it. A resultant tubular filter member is produced having an axial air gap between the outwardly disposed plain filter strip and the inwardly disposed charcoal impregnated filter strip.

1 Claim, 5 Drawing Figures

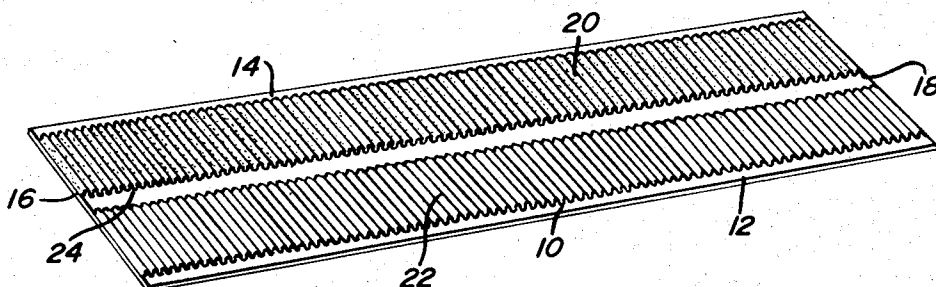


Fig. 1

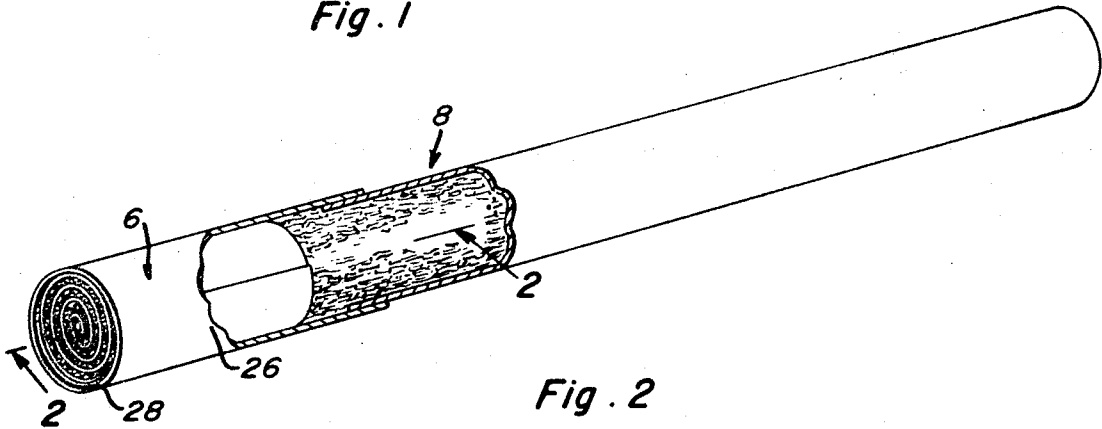


Fig. 2

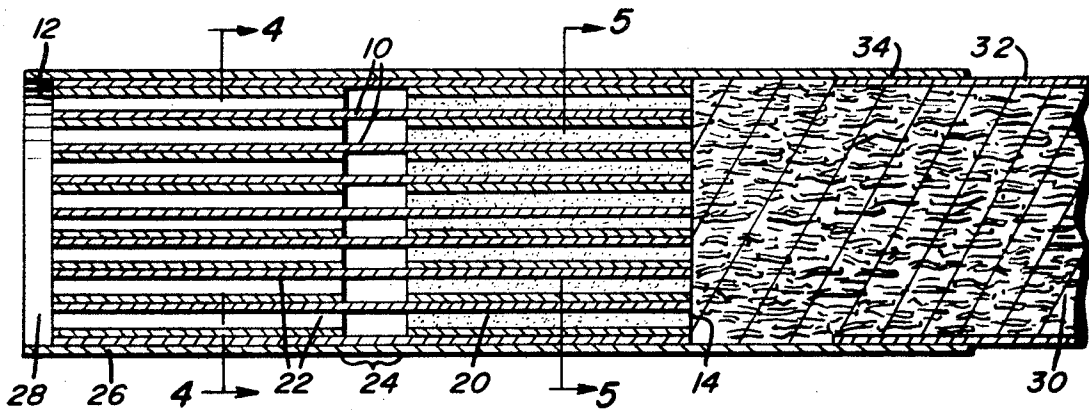


Fig. 3

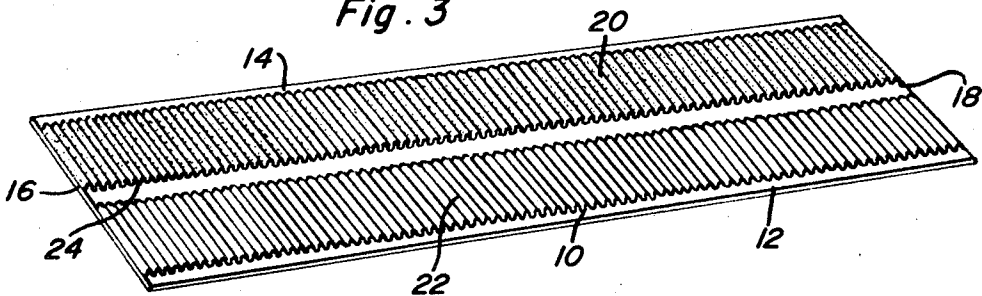


Fig. 4

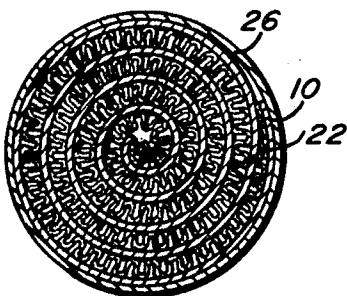
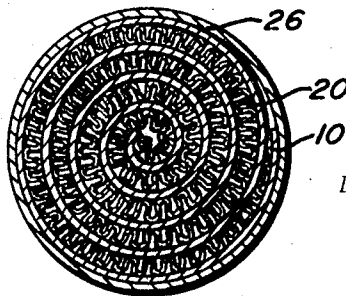


Fig. 5



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CIGARETTE FILTER

To date, a large number of cigarette filter designs have been devised. One commercially available type includes charcoal granules positioned adjacent the tobacco mass while plain fiber or paper is positioned outwardly from the charcoal to be received between the smoker's lips.

The present invention is an improvement over the aforementioned type of cigarette filter. Basically, two parallel spaced corrugated strips of charcoal impregnated paper and plain paper are attached to an aluminum foil base. The base is rolled into a spiral thereby carrying the corrugated strips along with it to form a tubular-like filter member. The corrugations increase the efficiency of filtering while the resultant axial air gap between the filtering strip and the aluminum foil base aid in dissipating heat from the inhaled smoke thereby offering a cooler smoke to the smoker.

By constructing a cigarette filter as described, superior filtering action can be obtained from a structure easily and economically fabricated.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a perspective view illustrating the appearance of the present invention.

FIG. 2 is a longitudinal sectional view, on an enlarged scale, taken along a plane passing through section line 2—2 of FIG. 1.

FIG. 3 is a perspective view illustrating the present invention prior to being rolled up.

FIG. 4 is a transverse sectional view taken along a plane passing through section line 4—4 of FIG. 2.

FIG. 5 is a transverse sectional view taken along a plane passing through section line 5—5 of FIG. 2.

Referring to the figures and more particularly FIG. 1, reference numeral 8 generally denotes a complete cigarette having a filter tip 6 which forms the present invention.

FIG. 3 illustrates the cigarette filter tip prior to being rolled into the tubular-like configuration illustrated in FIG. 1. As indicated in the figure, reference numeral 10 is a rectangular aluminum foil strip which serves as a base carrier for the filter. The rectangular strip includes lateral edges 12 and 14 disposed perpendicularly of transverse edges 16 and 18. A first strip of corrugated filter material 20 is positioned slightly inwardly from lateral edge 14 and fully extends between the transverse edges 16 and 18 of the foil strip 10. The material from which the filtering strip 20 is fabricated includes filter paper that has been impregnated or otherwise suitably treated with charcoal. A second strip of corrugated filter material 22 lies in parallel spaced relation with that of strip 20. The material from which the strip

22 is fabricated is preferably plain filter paper. A space 24 extending between the transverse edges 16 and 18 separates confronting edges of the filtering strips 20 and 22. The base 10 is rolled from transverse edge to transverse edge carrying strips 20 and 22 with it thereby forming a spiral tubular-like filter member or tip as clearly illustrated in FIGS. 4 and 5. Once rolled, a cylindrical paper layer 26 covers the rolled base 10, the paper cover extending outwardly to form a filter end recess 28.

As shown in FIGS. 1 and 2, the filter tip 6 is attached to the rear end portion of a tobacco column 30 that is covered with paper 32 in a conventional manner. The covering paper 26 of the filter tip is connected to the covering paper of the tobacco column as indicated by 34.

By properly rolling the corrugated filter strips as indicated, a sufficient number of air passageways between corrugations are provided to allow relatively easy drawing of tobacco smoke through the filter. Also, the corrugations present a substantial surface area to remove unwanted smoke constituents. Further, the corrugated structure of the filter produces a resilient filter that can withstand the clamping action of the smoker's lips.

In effect, the corrugated strips 20 and 22 achieve superior filtering of inhaled smoke while the air gap 24 between the strips helps to cool the smoke as it travels from the charcoal impregnated filter paper strip 20 to the plain filter paper 22. However, since both the strips are attached to the aluminum foil base 10, the base aids in dissipating the heat in the cigarette smoke once it enters the forward edge 14 (FIG. 2) of the filter.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A cigarette filter comprising a base strip, a first strip of untreated filter paper material connected to the base strip, a second strip of carbon treated filter paper material connected to the base strip in spaced relation to the first strip, the base strip and the connected filter strip rolled to form a spiral tubular-like filter member, the first and second strips being corrugated, the lengths of the individual corrugations being in parallel relationship to the axis of the tubular-like member, the first and second filter strips being positioned in parallel as well as spaced relation with the space between the strips serving as an air gap to cool traversing smoke in the rolled filter, the base strip being made of aluminum foil which dissipates heat from the tobacco smoke traversing the filter.

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