REDUCED TAR CONTENT CIGARETTE

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1. 3,409,021 REDUCED TAR CONTENT CIGARETTE
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ABSTRACT OF THE DISCLOSURE
A cigarette of tubular configuration having spaced bands of fireproof material having high heat conductivity which bands are carried by intervening paper bands which may be individual or may constitute portions of a continuous cylinder of paper.

This application is a continuation-in-part of my co-pending application, Ser. No. 449,447, filed Apr. 20, 1965 and now Patent 3,370,593.

This invention relates to cigarettes and more specifically to a novel and improved cigarette wherein the tar component contained in the gases produced by the burning of the cigarette paper is minimized and consequently reduces possible injury to the smoker upon inhalation of the smoke.

One object of the invention resides in the provision of a novel and improved cigarette wherein the gases resulting from burning of the paper wrapper have a materially reduced tar content.

Still another object of the invention resides in the provision of a novel and improved cigarette.

The above and other objects of the invention will become more apparent from the following description and accompanying drawings forming part of this application.

In the drawings:
FIGURE 1 is a cross-sectional view of a novel and improved cigarette in accordance with the invention.
FIGURE 2 is a cross-sectional view of a modified embodiment of the invention.

FIGURES 3a, 3b and 3c are plan views of modified wrapper structures for use with cigarettes in accordance with the invention.

Referring now to the drawings, and, more specifically, to FIGURE 1, the novel and improved cigarette is generally denoted by the numeral 10 and comprises an outer tubular wrapper 11 that is filled with tobacco 12. The paper wrapper has a plurality of metal bands 13 of thin material secured to the inner surface of the wrapper 11 and spaced one from the other to provide a series of gaps 14. When the cigarette is lighted, the bands 13 of metal foil which may be of aluminum or other suitable material will not interfere with the normal burning of tobacco since the metal has very low mass even though it may have a relatively high heat conductivity. The utilization of the metal bands will minimize the amount of gas normally produced by the burning paper in a conventional cigarette and thereby materially reduce the quantity of tars inhaled by the smoker. In this way, injury to the smoker is reduced to a large extent. Furthermore, even though the foil bands 13 of aluminum or other material are nonflammable, they may oxidize to some extent but will not produce injurious gases in the process. Since the bands 13 are spaced one from the other, the burnt ashes of the cigarette can be readily discarded as in the case of a conventional cigarette.

FIGURE 2 shows a modified cigarette structure in accordance with the invention and is generally denoted by the numeral 15. In this embodiment, the tobacco 12 is enclosed by an outer wrapper consisting of alternative overlapping bands of paper 16 and metal foil 17. It will be observed that the metal foil bands 17 are spaced one from the other as in the case of the structure shown in FIGURE 1 and they are connected together by the strips of paper 16 which in effect form gaps between adjoining metal foil bands 17 as in the case of the structure shown in FIGURE 1. In this embodiment of the invention, the quantity of paper used in the outer wrapper is further reduced and accordingly the injurious gases produced by the burning paper are greatly minimized.

Other wrapper constructions may also be utilized in the fabrication of the improved cigarette in accordance with the invention, and these modified wrappers are shown in FIGURES 3a, 3b and 3c. In FIGURE 3a, the paper wrapper 11 may be provided with a series of diagonal strips 18 of thin metal foil which are separated one from the others to form intervening gaps 19. When this wrapper is applied to a cigarette, the bands 18 will form helices and perform in much the same manner as the bands illustrated and described in FIGURES 1 and 2. FIGURE 3b shows still another form of wrapper comprising a sheet of thin paper 11 with a plurality of thin metal discs 21 adhered to one surface thereof. The wrapper structure shown in FIGURE 3c includes a layer of cigarette paper 11 which carries on its inner surface a plurality of small pieces of metal foil 22 which are spaced one from the others to provide small gaps therebetween.

In each of the embodiments of the invention discussed above, the metal foil can be adhered to the paper in any suitable manner.

From the foregoing description, it is evident that the improved wrapper structure for the tobacco which embodies metal foil materially reduces the amount of gas produced by the burning of the paper as compared to a conventional cigarette and thereby substantially minimizes the quantity of injurious gases inhaled by the smoker. Furthermore, since the metal foil utilized has relatively low mass, the heat absorption is low and the foil does not interfere with local burning. In addition, the separation of the burnt ashes from the cigarette is easily accomplished, and smoking of the cigarette in accordance with the invention affords the same feeling as the smoking of a conventional cigarette using a plain paper wrapper.

While only certain embodiments of the invention have been illustrated and described, it is apparent that alterations, modifications and changes may be made without departing from the true scope and spirit thereof as defined by the appended claims.
What is claimed is:

1. A cigarette comprising an elongated tubular wrapper, tobacco filling said wrapper and a plurality of thin non-reentrant discrete pieces of a fireproof material having substantial heat conductivity carried in spaced relation on the inner surface of said wrapper, said pieces being spaced one from the others to provide intervening areas of paper in contact with said tobacco.

2. A cigarette according to claim 1 wherein said pieces are strips each in the form of a helix.

3. A cigarette according to claim 2 wherein said pieces are of thin metal.

4. A cigarette according to claim 1 wherein said pieces are in the form of a plurality of discs spaced uniformly over the inner surface of said wrapper.

5. A cigarette according to claim 4 wherein said pieces are of thin metal.

6. A cigarette according to claim 1 wherein said pieces have sides and included angles and are distributed uniformly over the inner surface of said wrapper.

7. A cigarette according to claim 6 wherein said pieces are of thin metal.