A cigarette or a cigarette holder for reducing the quantity of particulate, tar and nicotine, provide a cooler smoke, and considerably reduces toxic gases. It includes an apertured tubular member surrounded by a porous fibrous sleeve and a pair of generally cone-shaped members, one at the entrance end of the tubular member and the other at the exit or discharge end of the tubular member, with each cone-shaped member having a radial opening spaced from the inside of the tubular member and positioned approximately 180° from each other so that the smoke passing through the entrance cone is directed into the tubular member and mixed with air drawn thereinto and discharged through the radial opening in the exit cone-shaped member. The apices of the cone-shaped members may abut or may be mutually spaced along the longitudinal axis of the holder.

3 Claims, 4 Drawing Figures
CIGARETTE AND/OR CIGARETTE HOLDER

This application is a continuation-in-part of application Ser. No. 800,500, filed Feb. 19, 1969 now U.S. Pat. No. 3,504,677 issued Apr. 7, 1970.

BRIEF SUMMARY OF THE INVENTION

Briefly, the cigarette and/or cigarette holder formed with this invention includes a tubular member provided with a plurality of apertures, a porous sleeve surrounding said tubular member to enclose same, and a pair of generally cone-shaped members extending inwardly into said tubular member, one of said cone-shaped members being at the entrance end of the tubular member and the other at the exit thereof, with each cone-shaped member having at least one radial opening spaced 180° from the other so that the smoke entering the entrance cone-shaped member passes through the radial opening into the interior of the tubular member where it is mixed with air drawn through the sleeve into the tubular member and then passes out through the exit tubular member through radial opening. The smoke that passes from the tobacco end to the mouth of the smoker will travel a tortuous path and will deposit the particulate matter, such as the tar and nicotine in the article and will greatly reduce the amount of such matter that enters the mouth of the smoker. In addition, the smoke will be cooler and have a less objectionable smoking taste.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a side elevational view of the invention as embodied in a cigarette holder.

FIG. 2 is an enlarged cross-sectional view of FIG. 1 taken on the longitudinal center thereof.

FIG. 3 is a central sectional view of a cigarette embodying the invention, and

FIG. 4 is a view similar to FIG. 2 but of a modified embodiment.

DESCRIPTION OF THE CIGARETTE HOLDER AND CIGARETTE SHOWN IN FIGS. 1 AND 2

The cigarette holder, generally indicated at 10, includes a tubular member 12 made of plastic or the like, provided with spaced radial openings 14. Positioned inside the tubular member 12 are two hollow cone-shaped members, preferably made of plastic. One of said cone-shaped members is designated by the numeral 16 and is positioned inside the tubular member inwardly of but adjacent the entrance or front thereof, and the other cone-shaped member 18 is positioned adjacent the exit or rear end of the tubular member.

The cone-shaped member 16 adjacent the entrance of tubular member 12 is provided with at least one radial opening 20 and it will be seen that said radial opening, best shown in FIG. 2, is spaced from the interior wall of the tubular member 12. The cone-shaped member 18 adjacent the exit end of the tubular member also has a radial opening 22 which is likewise spaced from the interior wall of the tubular member 12. The radial opening 20 of the entrance cone is spaced approximately 180° from the radial opening 22 in the exit cone. The two cone members 16 and 18 are positioned inside the tubular member 12, as shown in FIG. 2, and are spaced axially from each other and may be secured by friction means or may be positively secured to the tubular plastic member 12. A fibrous sleeve 24 surrounds the plastic tubular member 12. The said sleeve 24 is a tubular fibrous member which is porous and absorbent and is made from a paper made from natural fibers, which is both porous and absorbent. It could extend over the length of the tubular member 12 but, path, is short thereof. The front end 26 of the tubular member 12 extends forwardly of the cone 16 to provide a pocket 28 for receiving a cigarette 30.

The smoke as it enters the front cone 16 is constricted and converges to a reduced area at the tip 32 of the cone and is blocked from moving in its normal axial path. It has to change its direction to pass radially out of the cone through the radial opening 20 into the tubular chamber 34 where it expands and mixes with the fresh air drawn thereinto through the sleeve 24 and tortuous openings 14. This movement produces a turbulence in the chamber 34. As the smoke moves in an axial direction in chamber 34 it must enter radial opening 22, positioned 180° from radial opening 20. The smoke is constricted as it enters opening 22 and changes its flow to a radial flow into the rear cone, after which the smoke changes its direction to an axial flow and diverges as it passes out of the rear cone to the mouth of the smoker. This continuous changing of the direction of the flow of the smoke through a tortuous path as it passes from the tobacco to the mouth of the smoker, with the mixing of the air, causes the particulate matter and other impurities to be deposited in and on the cones, as well as the tubular member, as well as the sleeve, and reduces the amount of particulate that ultimately reaches the mouth of the smoker. It also cools the smoke and enhances its taste.

FIG. 3 shows the construction aforesaid as an integral part of a cigarette and will not be redescribed, except that the parts in FIG. 3 which correspond to similar parts in FIGS. 1 and 2 will be given the same number primed. In the cigarette shown in FIG. 3, the rear end 36 of the cigarette 38 is positioned adjacent and somewhat beyond the front end 40 of the fibrous sleeve 24' with some of the tobacco of the cigarette entering the front end of the fibrous sleeve 24'. A band 42 joins the rear end of the cigarette with the front of the sleeve 24' so that the two form an integral cigarette. Any other means of joining the cigarette with the rear end which forms the mouth of the cigarette may be employed.

FIGURE 4

The FIG. 4 embodiment is generally similar to that shown in FIG. 2 and previously described, except that instead of having two separate hollow cone-shaped members as in FIGS. 2 and 3, the two hollow cone-shaped members are integrally molded and form a single unit, generally indicated at 44, resembling a diablo in which the apices of the cones are united, as shown.

The radial opening 46 in the front cone-shaped member 48 is positioned 180° from the radial opening 50 in the rear cone-shaped member 52. The remaining structure and function are as previously described.

What is claimed is:

1. A smoke-treating article comprising an elongated open-ended tubular member adapted to receive smoke from burning tobacco article, said tubular member having a plurality of air-admitting, spaced-apart radial openings, a tubular porous open-ended sleeve surrounding at least partially said tubular member, a pair of hollow cone-shaped members positioned inside said tubular member with the open base end of one cone-shaped member adjacent the front and the open base end of the other cone-shaped member the rear open end respectively of the tubular member and the apex ends of the cone-shaped members facing and spaced from each other to define a turbulence zone, each said cone-shaped member being closed at its apex end to block axial passage of the smoke through its respective apex end, each cone-shaped member having a radial opening adjacent its respective apex end, the radial openings of the cone-shaped members being approximately 180° apart so as to face in opposite directions, the smoke entering the open end of the front cone-shaped member axially and passing thereafter through the radial opening adjacent the apex end thereof radially into the turbulence zone of the tubular member where the smoke moves axially and is mixed with air drawn into the tubular member through said radial openings in the tubular member and the smoke then passing radially into the radial opening adjacent the apex end of the rear cone-shaped member and then axially through the open end of the rear cone-shaped member into the mouth of the smoker.

2. A smoker's article as defined in claim 1 in which the tubular member and the cone-shaped members are formed of a plastic material.
3. A smoker's article as defined in claim 1 in which the tobacco article is connected to said tubular member as to form a cigarette.