United States Patent

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[72] Inventor **Mortimer Russel Dock**
New York, N.Y.

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[73] Assignee **The H-2-O Filter Corporation**
New York, N.Y.

[54] **EXTENDER MEANS FOR ATTACHMENT OF AN AUXILIARY CIGARETTE FILTER**
4 Claims, 6 Drawing Figs.

[52] **U.S. Cl.** ..... **131/10 A,** 131/11, 131/187, 131/198 R
[51] **Int. Cl.** **A24d 01/04,** A24f 13/06, A24f 13/08
[50] **Field of Search** ..... 131/9, 10 A, 10 R, 11, 10.7, 187, 190, 4, 8

[56] **References Cited**

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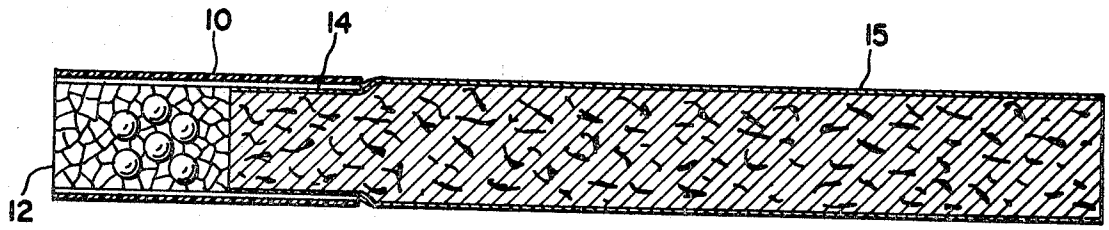
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Primary Examiner—Samuel Koren
Assistant Examiner—J. F. Pitrelli

ABSTRACT: This invention relates to extender means for optional attachment of an auxiliary cigarette filter to a conventional cigarette. The extender means comprises a tubular body having ridges on its internal surface. Each said ridge defines dual vertices creating an air duct therebetween to rarify the smoke drawn through the cigarette.



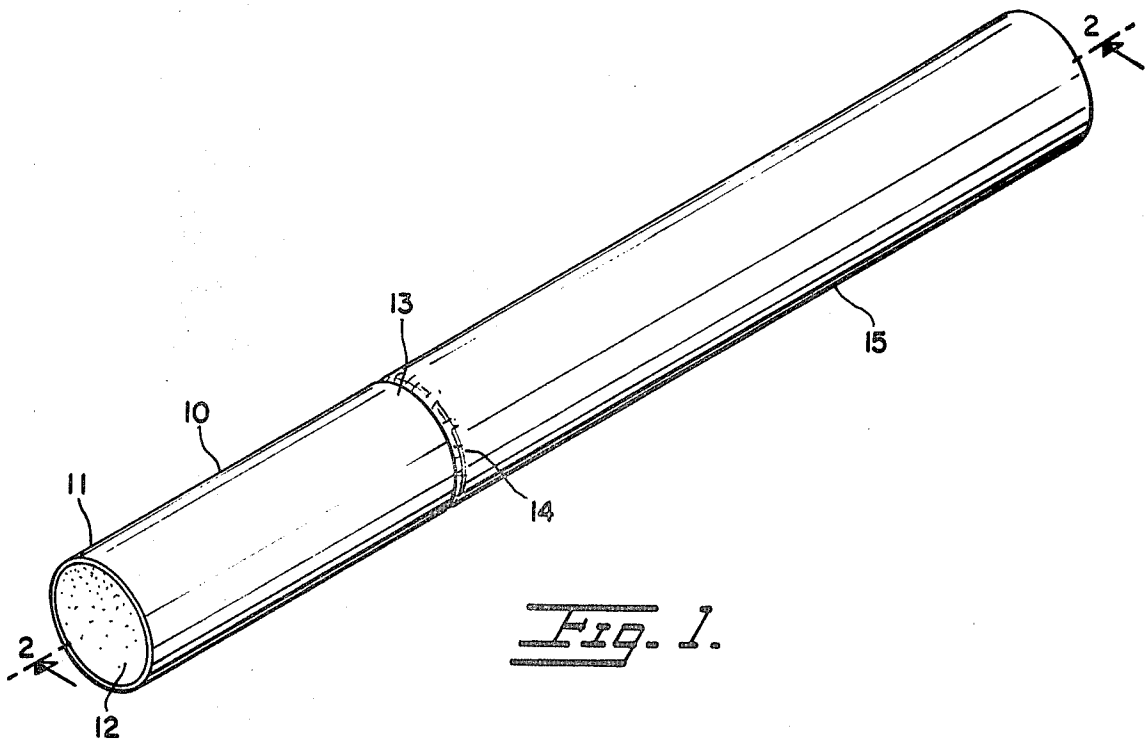


Fig. 1.

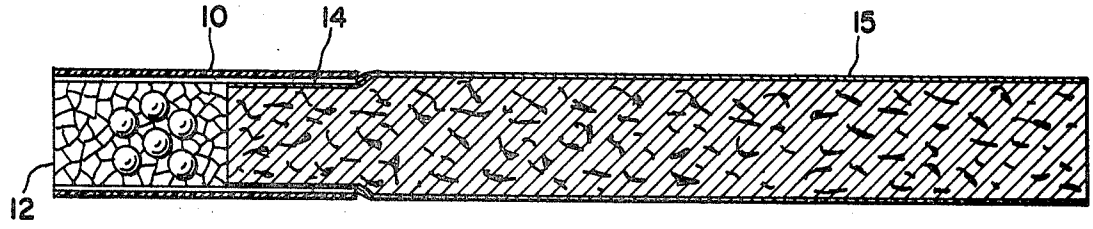


Fig. 2.

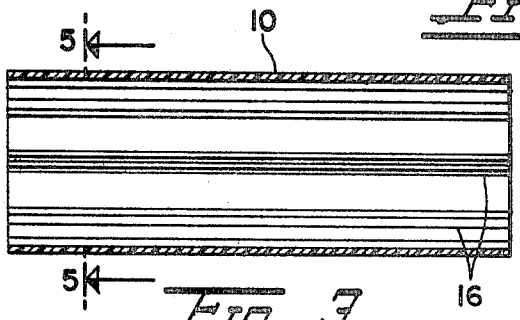


Fig. 3.

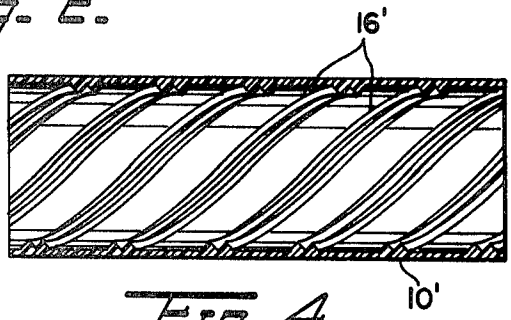


Fig. 4.

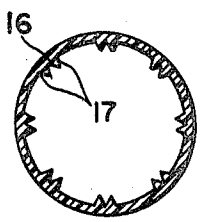


Fig. 5.

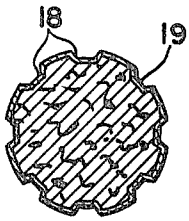


Fig. 6.

INVENTOR.
MORTIMER RUSSELL DOCK

EXTENDER MEANS FOR ATTACHMENT OF AN AUXILIARY CIGARETTE FILTER

This invention relates to extender means for optional attachment of an auxiliary cigarette filter to any conventional cigarette to improve the smoking properties thereof, by the matable relationship of said filter extender with the end of the cigarette.

Many types of filters have been devised with the intent to improve the smoking qualities of cigarettes. Among these are the conventional fiber tows, and in addition there is the water filter, numerous embodiments of which have been assigned to and are owned by The H-2-O Filter Corporation, which is the assignee of this present application. These include U.S. Pat. No. 3,366,121 and copending applications Ser. No. 662,920, filed Aug. 24, 1967, and Ser. No. 867,074, filed Oct. 16, 1969.

Customarily, these filters are attached to cigarettes as an integral part thereof and the smoker whose preference turns to a particular brand is bound to the use of such filtering means as that brand provides.

In the present invention it is contemplated that a smoker may combine his enjoyment of a preferred brand of cigarette with the enhanced taste and coolness of a filter of a different type, by the telescopic attachment over the end of his cigarette of an extender-housing containing such different filter.

The attachment of the device of the present invention upon a conventional filter cigarette provides for abutment of the filter embodied herein with the filter integrally attached to the cigarette. This invention consists of a hollow cylindrical housing having upon the interior thereof parallel ridges, either longitudinal or defining a helical path. The purpose of the ridges is twofold: (1) to secure the end of the cigarette within the housing by the added compression exerted by said ridges; and (2) to create minute air ducts along said ridges, to rarefy the smoke and add coolness as the smoke enters the filter. Such ridges, defining depressed paths upon the filter end of the cigarette, effect an improvement in the action of the filter, by the continuance of the ridges into the filter end of the filter-extender housing.

It is contemplated that each of such ridges may define dual vertices so that, upon compression of the wrapper of the filter integrally attached to the cigarette, when the same is inserted into the open end of the extender housing, such dual vertices will provide a channel therebetween, to permit the passage of air therethrough and the consequent rarefication of the smoke that is received into the filter embodied in the present invention.

This device is different from, and an improvement over, cigarette holders, including those in which some form of filter is provided. In those devices, the filter is disposed at a distance from the mouth of the smoker, leaving a chamber through which the smoke must pass before reaching the smoker's mouth. In the present invention, the filter is directly adjacent the smoker's tongue and abuts the end of the filter on the cigarette with which this device is used.

For a better understanding of this invention, reference is made to the accompanying drawings, in which.

FIG. 1 is a perspective view of the filter end of the extender housing of the present invention, embodying a filter in one end thereof and having the end of a cigarette telescopically inserted into the opposite end of said extender housing.

FIG. 2 is a cross section taken on line 2—2 of FIG. 1.

FIG. 3 is a cross section of said extender housing, without a cigarette inserted therein, and without the filter means, showing longitudinal ridges upon the interior thereof.

FIG. 4 is a cross section of FIG. 3, showing the ridges following a helical path along the interior thereof.

FIG. 5 is an end view of the filter extender housing; and

FIG. 6 is an end view of a cigarette the end of which has been inserted into the said extender housing.

With more particular reference to the drawings, it will be seen that in FIGS. 1 and 2, housing 10 has, in one end 11, a filter 12, and the opposite and 13 provides a receptacle into which the filter end 14 of a cigarette 15 is inserted.

FIG. 3 shows the longitudinal ridges 16 extending throughout the length of the extender housing; and

FIG. 4 shows ridges 16' following a helical path along the interior of said extender housing.

In FIG. 5, an end view of the extender housing shows ridges 16, providing angular recesses 17 adjacent the ridges, thus creating additional air ducts to supplement those between said dual vertices.

FIG. 6 shows an end view of a cigarette which has been inserted into the housing of the present invention, with the wrapper of said cigarette depressed at 18, causing the creation of widened grooves 19. Said grooves 19 provide the principal air duct along each ridge path to permit the intake of air for rarefication of the smoke, as above set forth. While such widened grooves are not essential for the creation of air ducts, they are shown as the preferred embodiment; however, a ridge having a single vertex would likewise be operable, to a somewhat lesser extent.

The extender housing, with a filter emplaced at one end, is fitted over the end of a cigarette, and pressure exerted upon the end thereof serves to apply the extender means over the filtered end of the cigarette. In filters using the adjustable device of said copending application, Ser. No. 867,074, such pressure also serves to activate the filter simultaneously with its attachment to the cigarette. Pressure is continued upon the end of the extender housing until the filter contained therein has been brought into abutment with the tip of the filter which forms an integral part of the conventional cigarette to which said extender means is being applied.

When the housing employs longitudinal ridges, insertion of the cigarette is effected by a straight pushing action; when helical ridges are used, the extender housing is turned slightly as it is pushed onto the cigarette, to create grooves in the latter following the same pattern as the helical ridges.

Various means have been used to create air vents in cigarette filters, indicating the recognition that rarefication of the smoke is desirable. The rarefication achieved by the present invention is believed to be superior to such other means, and the added advantage of this invention, as stated heretofore, is its optional use on cigarettes having a preferred taste but with ineffective filtering means.

The invention having been thus disclosed, what is claimed is:

1. In a filter extender housing for optional attachment of an independent filter to the end of a cigarette, a tubular body having internal ridges on its inner surface and containing space in one end portion for filtering means, and providing in the opposite end a receptacle for the receipt of the filter end of a conventional cigarette, such filter end being brought into direct abutment with the filter means embodied in the said extender housing, wherein each of said ridges defines dual, closely spaced vertices, creating an air duct therebetween to effect rarefication of the smoke drawn through said device, said ridges being spaced apart from each other a distance substantially greater than the spacing between said vertices.

2. The invention of claim 1, wherein said housing is fabricated of resilient, waterproof material.

3. The invention of claim 1, wherein said internal ridges, being parallel, are longitudinally disposed at space-apart intervals upon the interior of said housing.

4. The invention of claim 1, wherein said internal ridges, being parallel, follow a helical path upon the interior of said housing.