May 27, 1958 W. A. RICE 2,836,184

CIGARETTE HOLDER

Filed April 28, 1953

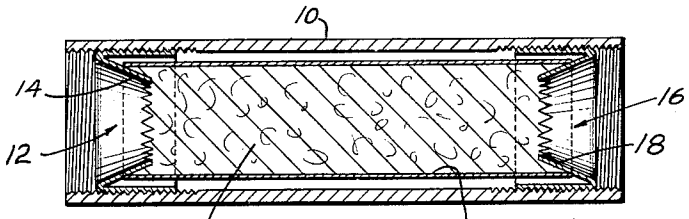


Fig. 1.

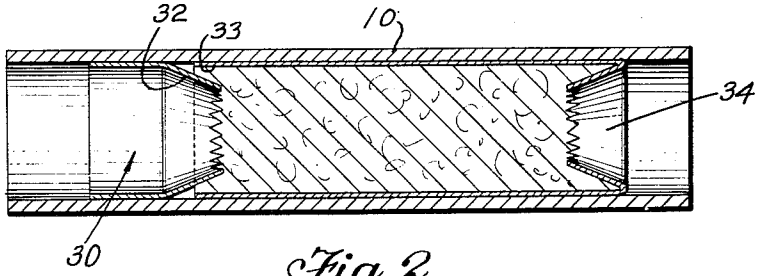


Fig. 2.

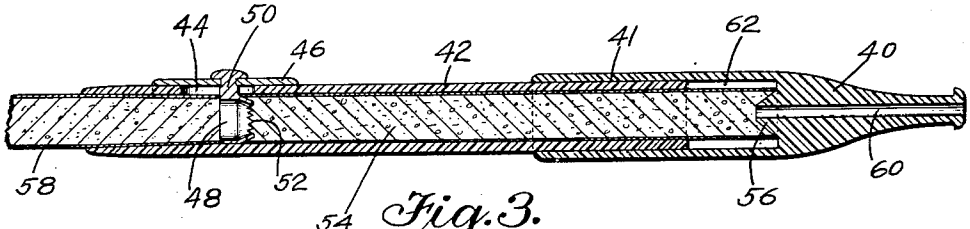


Fig. 3.

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United States Patent Office 2,836,184
Patented May 27, 1958

2,836,184

CIGARETTE HOLDER

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Application April 28, 1953, Serial No. 351,767

1 Claim. (Cl. 131—182)

(Granted under Title 35, U. S. Code (1952), sec. 266)

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

This invention relates to a cigarette holder having a filter for separating suspended particles from gases or liquids in tobacco smoke.

An object of the invention is to provide a cigarette holder having a filter of simple and reliable construction having a filtering element which may be quickly removed and replaced after it has served its purpose.

A further object is to provide a cigarette holder having a filter wherein leakage of fluid around the filtering element is prevented.

Other objects and many of the attendant advantages of this invention will be understood by references to the following description and drawing wherein:

Fig. 1 is a view in longitudinal section of a filter embodying a part of the invention;

Fig. 2 is a fragmentary view in longitudinal section, showing a modified form of the filter; and

Fig. 3 is a view in longitudinal section of a cigarette holder including a filter embodying a modified form of the invention.

The filter shown in Fig. 1 comprises a tube 10 open at each end and internally threaded as shown. Adjacent one end of the tube an externally threaded ferrule 12 is mounted in fluid-tight relation to the tube, and is formed with an inwardly directed frusto-conical flange 14 having a serrated edge. A similar ferrule 16 having a flange 18 is mounted in spaced and opposed relation to ferrule 12.

The filtering element shown in Fig. 1 is of the cartridge type, and includes a cylindrical mass of filtering material 20 enclosed in an open-ended sleeve 22. The sleeve 22 may be of flexible material such as paper, or it may be of rigid material such as metal or plastic. Its diameter is less than that of the tube 10 but greater than that of the toothed edges of flanges 14 and 18, so that, in the position of the parts shown in Fig. 1, the teeth enter the sleeve and engage the filtering material 20, while the sleeve engages the tapered exterior surfaces of the flanges to prevent bypassing of the fluid to be filtered.

In operation, one end of the tube 10 will be put into communication with the fluid to be filtered, and a differential pressure will be set up to cause the fluid to flow through the filter. In order to replace the filter cartridge, the ferrule 16 will be removed, the elements 20, 22 withdrawn, a new cartridge inserted, and ferrule 16 screwed back in place to a point where it bears against sleeve 22 with sufficient pressure to prevent leakage.

In the modified form shown in Fig. 2, the ferrule 30 has a frusto-conical serrated flange 32 formed on its inner end, and the sleeve 33 of the filter cartridge is shaped to fit snugly within the bore of tube 10, being provided with a serrated inturned flange 34 similar to flange 32. In this form of the invention, both the ferrule 30 and the sleeve 33 may be slidable within the tube, since the fit of sleeve 33 in tube 10 will prevent leakage of fluid.

The device shown in Fig. 3 is a cigarette holder comprising a mouthpiece 40 having a cylindrical socket 41 in which a barrel 42 is slidably seated, being retained therein by friction. The barrel is formed with a slot 44 in which rides an ejector comprising a slide 46 and a ring 48 secured thereto by a pin 50. The posterior edge of the ring is formed with a conical toothed flange 52 similar to the flanges 12 and 18 above described, and designed to enter the end of a filter cigarette 54. The base of the socket 41 is formed with a conical projection 56 designed to enter the opposite end of the filter cigarette as the mouthpiece 40 is slid onto the barrel 42, to prevent leakage of smoke around the outside of filter cigarette. The cigarette being smoked is indicated at 58, and the bore of the mouthpiece at 60.

In the operation of the device shown in Fig. 3, the cigarette is inserted and ejected in usual manner. In order to replace the filter cigarette, the mouthpiece 40 is removed from the barrel 42 by sliding the mouthpiece rearwardly and the used filter cigarette removed. A fresh cigarette is then inserted until the paper at its forward end engages the flange 52 in gas-tight relation, and the mouthpiece slid onto the barrel until the projection 56 similarly engages the rear end of the cigarette. The length of the parts is preferably such as to accommodate cigarettes of various lengths, so that with a longer filter cigarette a space 62 will be left at the rear end of the barrel. The seal formed at both ends of the filter cigarette by elements 52 and 56 prevents smoke from passing through the space between the outer surface of the filter cigarette and the inner surface of the barrel 42, which would tend to form tarry deposits upon the latter surface.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is therefore to be understood that within the scope of the appended claim the invention may be practiced otherwise than as specifically described.

What is claimed is:

A cigarette holder comprising a mouthpiece including a forwardly directed projection, said mouthpiece having a bore therethrough and including a cylindrical shell having a socket communicating with said bore, a tube telescopically engaging said shell and adapted to receive a filter cigarette having one end thereof engaging said mouthpiece projection, the forward end of said tube being adapted to receive one end of another cigarette, and a ring longitudinally slidable in said tube and adapted to eject said other cigarette and provided at its rear edge with a tapered annular flange terminating in a serrated gas-passing annulus adapted to enter the forward end of the filter cigarette when the ring is moved rearwardly.

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