Nov. 3, 1959 J. ROSS 2,910,987

TOBACCO SMOKING HOLDER

Filed March 10, 1958

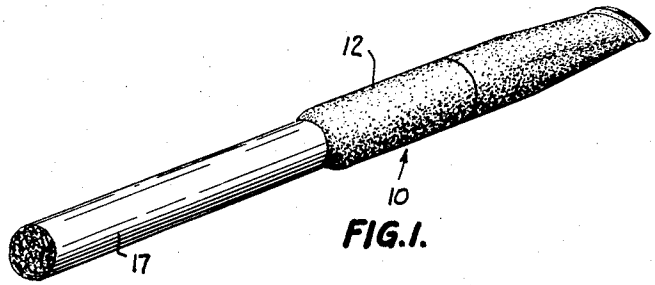


FIG.1.

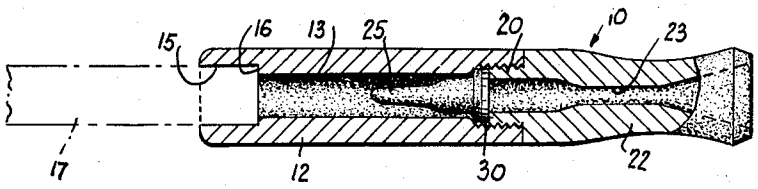
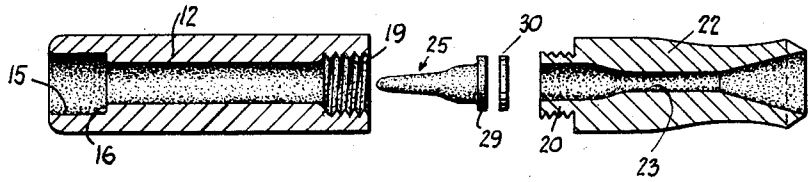


FIG.2.

FIG.3.



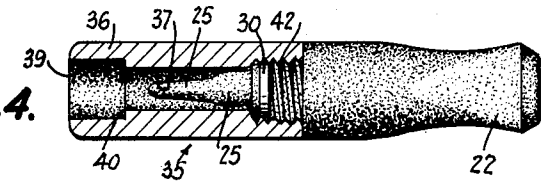


FIG.4.

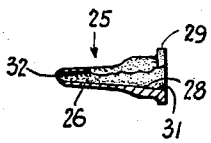


FIG.5.

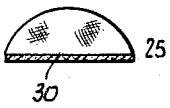


FIG.6.

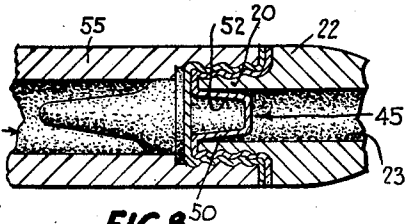


FIG.8.

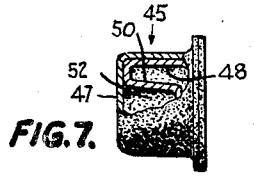


FIG.7.

INVENTOR.
JOHN ROSS.

BY

Percy Freeman

ATTORNEY.

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TOBACCO SMOKING HOLDER

John Ross, Mount Vernon, N.Y., assignor to Combustion Research, Inc., New York, N.Y., a corporation of New York

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1 Claim. (Cl. 131—187)

This invention relates to smoking equipment and more particularly to a smoke filter holder therefor.

Many medical authorities are of the opinion that tobacco smoke contains various tars and other constituents that are deleterious to the health generally and in some cases are responsible for lung cancer and other types of respiratory diseases. Accordingly, it is an object of the present invention to provide a novel holder for cigarettes, cigars, or pipe bowls, hereinafter referred to as a tobacco smoking holder for tobacco articles, that has self-contained filtering means for removing a relatively large proportion of these tars and other constituents from the smoke.

Another object of the present invention is to provide a novel filter assembly for such tobacco smoking holders that is particularly efficient for removing a large proportion of the harmful and deleterious particles carried by the smoke therethrough.

Still a further object of the present invention is to provide a smoke control member for use with a filter of a holder that is operative to concentrate the flow of smoke through the center of the filter.

All of the foregoing and still further objects and advantages of this invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing, wherein:

Fig. 1 is a perspective view of a holder for cigarettes made in accordance with one form of the present invention.

Fig. 2 is a longitudinal cross-sectional view of the cigarette holder shown in Fig. 1.

Fig. 3 is an exploded longitudinal cross-sectional view of the holder shown in Fig. 1.

Fig. 4 is a view similar to Fig. 2, showing a modified form of the present invention.

Fig. 5 is an enlarged front elevational view, with parts broken away, of a flow control element forming a part of the present invention.

Fig. 6 is a fragmentary perspective view of a filter element forming another part of the present invention.

Fig. 7 is a perspective view, with parts broken away, of a modified form of filter element.

Fig. 8 is an enlarged fragmentary view of a cigarette holder made in accordance with the present invention embodying a filter element of the type shown in Fig. 7.

Referring now to the drawing and more particularly to Figs. 1 to 3 thereof, a holder made in accordance with one form of the present invention has been shown for purpose of illustration, in the form of a cigarette holder **10**, and is shown to include a main cylindrical portion **12** having a main longitudinal bore **13** extending therethrough. An enlarged bore **15** at one end of the main body portion **12** defines shoulder **16** that provides a seat for the end of a cigarette **17** which may be inserted within the enlarged bore **15**.

The opposite end of the main body portion **12** is provided with an internally threaded bore **19** for threaded engagement with the threaded shank **20** of a mouthpiece **22**. This mouthpiece has a central longitudinal bore **23** that is in axial alignment with the central main bore **13** of the main body portion **12**. A filter disc **30** which may be of any desired construction which is effective to remove various tars and other constituents of tobacco smoke is carried against the adjacent end of the threaded shank **20** of the mouthpiece **22**. A flow control element **25** is disposed intermediate the filter disc **30** and the adjacent end of the main body portion **12**.

As shown in Fig. 5 of the drawing, this filter flow control piece **25** includes a circular flange **29** and a forwardly tapering side wall **26** that decreases in thickness from the flange **29** to the opposite end thereof. This side wall defines a central bore **28** that communicates with the central bore **31** in the flange **29**. When in proper assembled relationship, as in Fig. 2, the smoke that fills the main bore **13** can only pass into contact with the filter **30** by passing through the constricted opening **32** at the front end of the filter flow control element **25**. Thus, as the smoke passes through the opening **31** in the flange **29**, it is primarily directed against the center of a disposable filter disc **30**, thus assuring an efficient filtering action. Since the smoke is primarily directed against the center of the filter, there is a tendency for the smoke to also spread through the adjacent portions of the filter, thus providing a maximum filtering action as compared to directing the smoke against the peripheral edges of the filter wherein the filtering action would be minimized.

With reference now to Fig. 4 of the drawing, a modified form of holder **35** is shown wherein the main body portion **36** has a central main bore **37** that is much shorter than the central bore **13** of the aforementioned embodiment. Thus, the enlarged bore **39** provides a seat **40** for receiving the adjacent end of the cigarette which is much closer to the threaded bore **42** at the opposite end. As a result, the tapered end of the filter flow control piece **25** is in close proximity with the end of the cigarette during use, so that the smoke flowing through the cigarette is directed by suction toward the longitudinal center thereof in order to enter the constricted opening **32** of this control member.

As an alternative to the disc type filter **30** hereinbefore described, a modified form of filter unit **45** illustrated in Figs. 7 and 8 of the drawing may be used with either of the aforementioned embodiments of the present invention illustrated in Figs. 2 and 4 of the drawing. This modified filter construction **45** is constructed from an outer hat-shaped layer **47** of porous material and an inner layer **48** that are secured together along their marginal edges to form a composite structure. The center of the inner layer **48** is preformed into a portion **50** of substantially hollow conical configuration. The spacing of this portion **50** from the center of the outer layer **47** defines a completely closed compartment **52** therebetween that traps condensate that might otherwise pass into the mouthpiece from the longitudinal bore of the main body member of the cigarette holder.

When properly assembled within the main body portion **55** of either one of the aforementioned types of cigarette holders, with the apex of the conical section **50** pointing toward the bore **23** of the mouthpiece **22**, all smoke being drawn into the mouthpiece must first pass through the outer layer **47** of the filter, whereby the smoke within the compartment **52** must then further pass through the inner layer **48** of the filter before it is free to pass into the mouth of the smoker from the bore **23** of the mouthpiece. Condensate in the fluid stream is trapped within the compartment **52**, whereby the stream finally passing into the mouthpiece **22** is not only doubly filtered, but is also substantially free of the distasteful

and sometimes harmful condensate that would otherwise find its way to the mouth of the smoker.

It will be recognized that all of these parts are readily disassembled for cleaning and replacement purposes, in a very simple and convenient manner. Furthermore, it becomes a very simple matter to replace either type of filter element **30, 45**, whenever necessary.

While this invention has been described with particular reference to a cigarette holder of the construction shown in the drawing, it is to be understood that such is equally applicable to holders for cigars and pipe bowls and is not to be construed as imparting limitations upon the invention, which is best defined by the claim appended hereto.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

A tobacco smoking holder comprising in combination, a main body portion having an outer and an inner end, a main bore extending longitudinally therethrough, and a seat at the outer end for releasably receiving a tobacco article, the inner end of said main body portion having a counterbore communicating with the main bore and defining therewith an internal shoulder, a mouthpiece releasably carried by said inner end, said mouthpiece having a forward end and a rearward end and having a longitudinal bore in axial alignment with said main bore, a shouldered extension of reduced diameter on said forward end, the diameter of said extension being less than that of said counterbore and of substantially the same length as the depth of said counterbore, a filter interposed between said main bore and said mouthpiece bore, and a duct piece extending into said main bore from said inner end, and having a radially outwardly extending peripheral flange disposed within said counterbore and against said internal shoulder thereof; said filter comprising a pair of porous fibrous elements for intercepting and trapping air-entrained particles and condensate passing from said main bore toward said mouthpiece bore, one of said porous fibrous elements being a cup-shaped cylinder closed at its forward end and having on its rearwardly directed open end a radially outwardly extending flange; the other porous fibrous element comprising a hollow frusto-conical portion extending rearwardly into the mouthpiece bore, the base of the frusto-conical portion having a radially outwardly extending flange in face-to-face engagement with the closed end of said cylinder, a cylindrical portion extending rearwardly from the periphery of said latter flange along and in contact with the internal surface of said cylinder and terminating in a radially outwardly extending flange which lies against the cylinder-cup flange, said mouthpiece extension extending into the circular space between the frusto-conical portion and the internal surface of said cylindrical portion, with the forward end of said mouthpiece extension clampingly securing the peripheral flange of the duct piece, the closed end of said filter cylinder, and said outwardly extending flange of said cylindrical portion, and the cylinder-cup flange and the flange from said cylindrical portion being clampingly secured between the inner end of the main body portion and the mouthpiece shoulder.

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