April 28, 1959 D. K. COPELL 2,883,991

MOUTHPIECE

Filed July 18, 1955

Fig. 3.

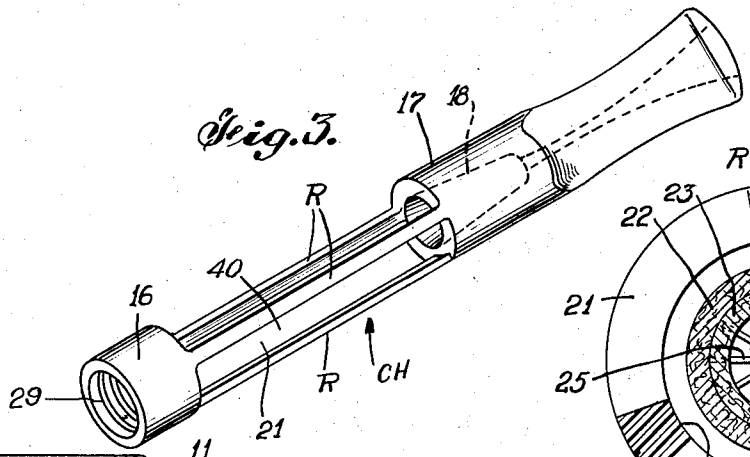


Fig. 2.

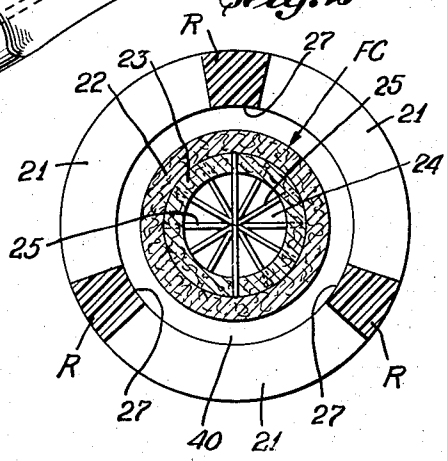


Fig. 1.

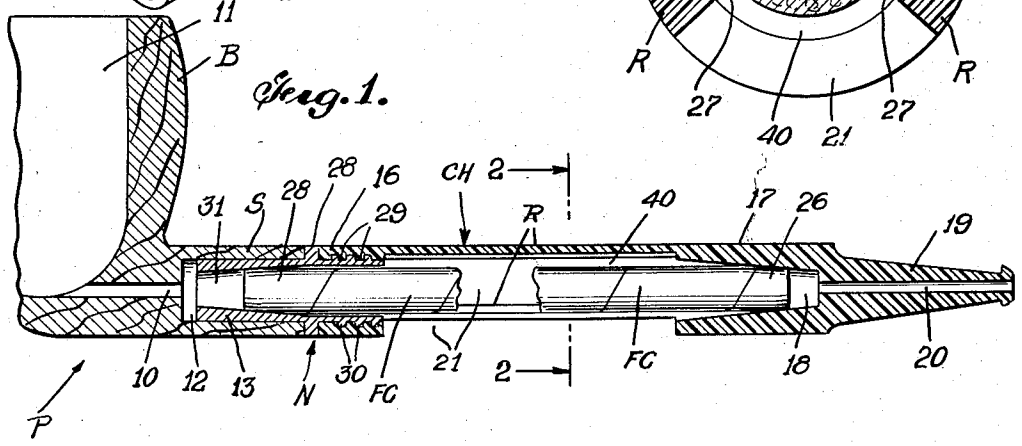
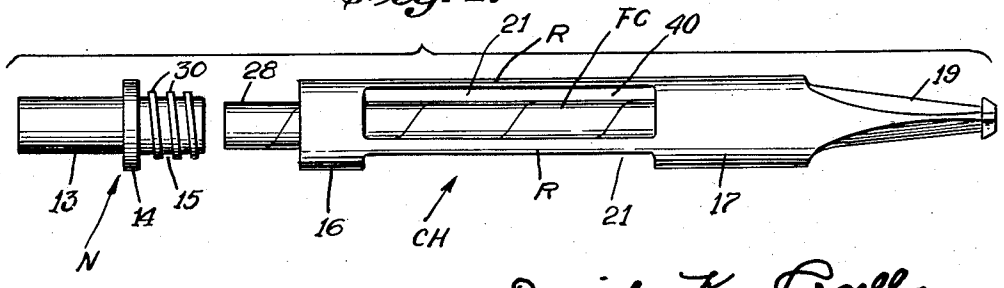


Fig. 4.



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MOUTHPIECE

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1 Claim. (Cl. 131—207)

This invention relates to a structurally and functionally improved mouthpiece to be used by a smoker. While it might be advantageously employed in numerous different associations, it is primarily intended to serve as a mouthpiece for a pipe.

It is an object of the invention to provide a novel and improved cartridge holder wherein the cartridge is always exposed to the currents of the atmosphere during smoking to provide for a relatively cool smoke. Another object resides in the provision of a cartridge holder in the form of a hollow casing provided with longitudinally spaced tubular anterior and posterior portions interconnected by circumferentially spaced relatively narrow ribs defining gaps leading to and in communication with the internal chamber of the holder between the anterior and posterior tubular portions. Another object resides in the provision of a nipple detachably associated with the holder and having a rearwardly expanding tapered bore for wedgeably supporting the anterior end of the cartridge. A further object is realized in the provision of a forwardly expanding tapered bore in the posterior tubular portion of the holder to frictionally sustain the posterior end of the cartridge.

With these and other objects in mind, reference is had to the attached sheet of drawings illustrating one practical embodiment of the invention and in which:

Fig. 1 is a longitudinal sectional view of the pipe according to my invention, showing the conventional bowl and the cartridge partly broken away;

Fig. 2 is an enlarged transverse sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of the mouthpiece; and

Fig. 4 is an exploded view of the parts of the assembly as shown in Fig. 1.

In the drawings, the pipe, generally denoted P, comprises the tobacco receiving bowl B and the laterally extending shank S having channel **10** communicating with bore **11** of the bowl. It will be observed that shank S also includes bore **12** in communication with channel **10**. Bore **12** retains the anterior tubular portion **13** of nipple N having annular flange **14** adapted to abut the rear end of shank S. Nipple N also includes the posterior externally threaded hollow portion **15** adapted to engage the internally threaded annular front end or anterior portion **16** of the cartridge mouthpiece or holder CH which includes a posterior annular portion **17** provided with the forwardly expanding tapered opening **18**. Portion **17** is continued in the form of a bit **19** provided with a bore **20**. The width of this bit is—as shown—substantially equal to the diameter of the holder, so that the latter may readily be manipulated and continuity of appearance will be maintained.

The holder CH is a one piece hollow member or casing and although shown as of a suitable plastic may be of any other proper material. However, its anterior cylindrical and internally threaded portion **16** and its posterior hollow portion **17** are appreciably spaced apart although preferably integrally interconnected by circumferentially

spaced ribs R defining the spaced gaps **21**, leading to and communicating with chamber or bore **40** intermediate the anterior and posterior hollow portions **16** and **17** of the holder.

The tubular filter cartridge FC is cylindrical and may consist of several plies of moisture and nicotine absorbing and relatively thick paper **22** and **23** defining an impervious outer layer and an internal bore **24** interrupted by a web of diametrically arranged stitches carried by the inner ply **23**. These stitches may be of cotton or the like adapted to filter the flow through the mouthpiece. As is well understood, plies **22** and **23** also absorb tars and other products of condensation in the smoke.

With the cartridge holder CH disconnected from nipple N, the filter cartridge FC may be inserted through the annular or ring shaped front end or portion **16** into holder CH until the rear or posterior end **26** of the cartridge wedges slightly against the tapered surface defining bore **18**. By this action the cartridge is not only frictionally held in holder CH but is concentrically disposed therein across the internal chamber **40**. In such relation the cartridge is spaced from the inner arcuate faces **27** of ribs R and exposed to the atmosphere.

Holder CH is now moved towards nipple N whereby front or anterior end **28** of the cartridge is received by the nipple N. More specifically at this time, the holder is rotated and the internal threads **29** of the front portion **16** coact with the external threads **30** of the hollow posterior part **15** of nipple N. Eventually head or front portion **16** meets the annular stop flange **14** and at this time the front end **28** of cartridge FC has been slightly compressed and has wedged itself against the rearwardly expanding tapered bore or opening **31** of the anterior part **13** of nipple N. Stated in another way, the front and rear ends of the cartridge are frictionally retained by nipple N and by the holder CH but in spaced relation in respect to ribs R, thus fully supporting the cartridge to maintain its concentric position across the holder. Also, the filter will have its adjacent end substantially sealed in engagement with the surface **18**.

During smoking, fumes reach bore **31**, are conducted through bore **24** of the cartridge FC where the fumes are filtered after which the filtered fumes are conducted through bore **20** to the user. Thus, by the present invention the cartridge serves as the only passage for, conducting the smoke between nipple and the rear end of the holder, or stated in another way for conducting the smoke longitudinally of chamber **40**. Since the cartridge is always in view during and after smoking, it can be realized at once whether it needs replacement by a new filter after having reached its maximum efficiency. Even during smoking, the cartridge is always open or exposed to the atmosphere. Consequently currents of air pass over the outside surface of the cartridge, thus tending to provide a cool smoke.

As will be apparent, the present mouthpiece serves as a framework to properly support the filter element. This framework may readily be maintained in clean condition. When it is necessary to replace a filter and with the front end of the mouthpiece unobstructed, the user may readily insert the tips of his thumb and finger through the gaps existing between the ribs to contact the outer face of the filter element. Thereupon, the latter may be axially shifted to remove it from association with the mouthpiece. By reversing this operation, a new filter element may be placed in operative association with the mouthpiece.

Various changes may be made in details of construction and arrangement of parts without departing from the scope of the invention or sacrificing any of the advantages inherent therein.

I claim:

A smoker's implement comprising in combination a tubular holder, a mouthpiece having a bit integral with said holder and disposed at one end of the latter, said bit having an axial smoke conduit in communication with the bore of the holder, an annular end portion fixed with respect to said holder at the end opposite said mouthpiece, a tubular nipple removably mounted on said annular end portion, a series of thin, elongated and rigid ribs spaced from each other to provide an elongated open framework throughout a major portion of the entire length of the implement, the bores of the nipple and the mouthpiece portion each being tapered in a direction away from the center of the implement to provide recesses, an elongated tubular filter element wholly housed within said holder and having an outer wall impervious to smoke to define the sole passage for that smoke, the ends of said filter element wedgingly and sealingly engaging one with each of the surfaces of said recesses, said ribs being spaced from the outer surface of said filter element, the open framework being of a size to expose for viewing a major portion of the circumference and length of the

filter, the fingertips being introducible through the open framework to engage the filter element and— after removal of the nipple—to shift the latter through said annular end portion to remove it from the implement.

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