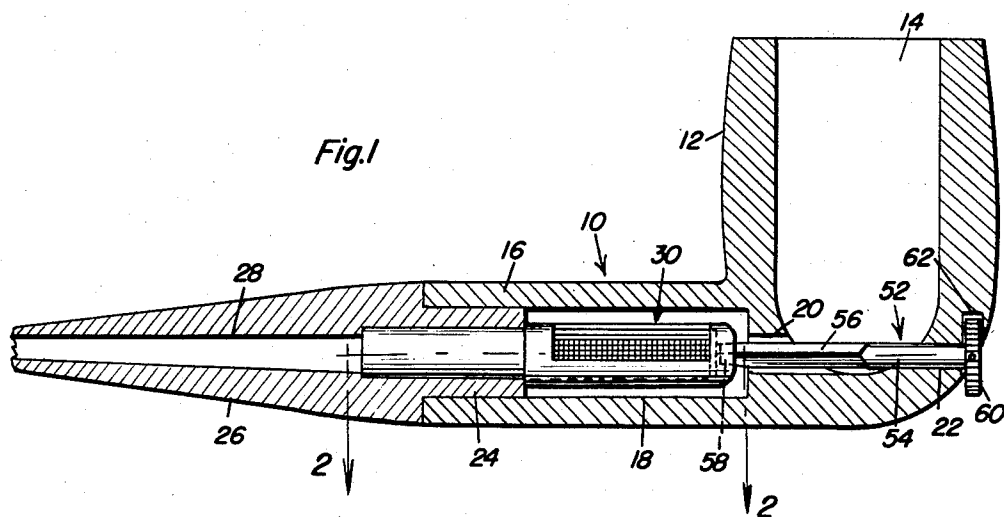
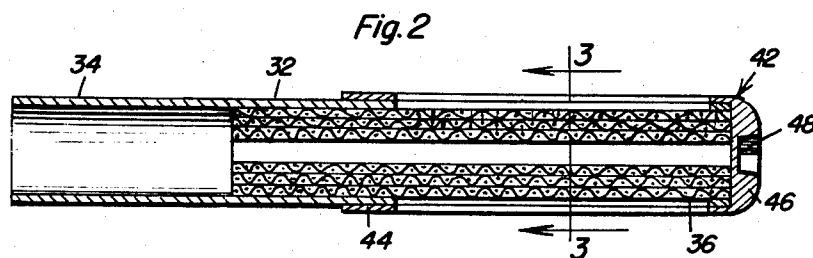
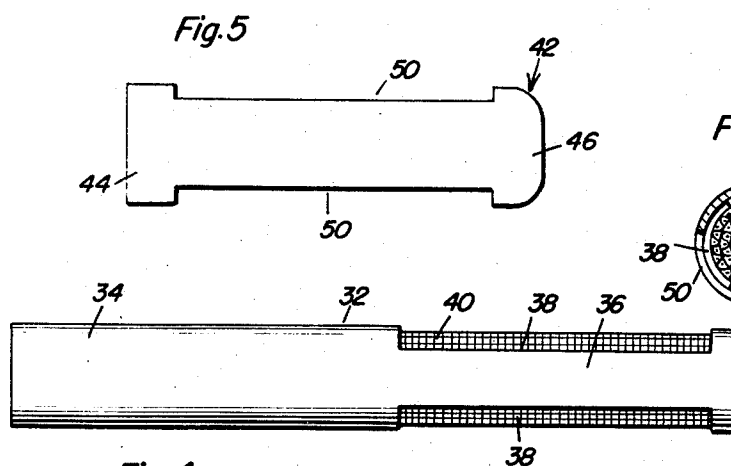
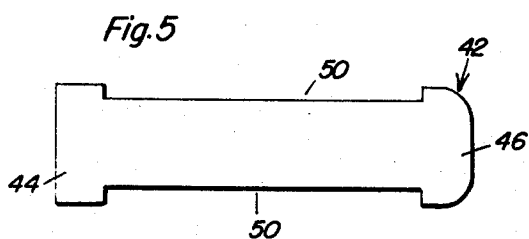


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J. L. BARBARA
 FILTER UNIT FOR PIPES
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2,843,133



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2,843,133

FILTER UNIT FOR PIPES

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4 Claims. (Cl. 131—207)

This invention relates in general to new and useful improvements in smoking accessories, and more specifically to an improved filter unit for pipes.

In the normal smoking of a pipe, the smoker has no way of controlling the smoke drawn from the bowl of the pipe except the amount of vacuum produced in the pipe by the smoker drawing on it. It will be readily apparent that depending upon the particularly mixture of tobacco or the amount the mixture has burned down, the smoker may wish to vary the amount of smoke drawn in with each puff. Normally the smoker wishes to make an even draw on the pipe each time. Thus, the smoker oftentimes receives smoke in strength and quantity not desired by him.

It is therefore the primary object of this invention to provide a filter unit for pipes which is provided with an operator which extends through the bowl of the pipe, the operator passing through the bore in the bowl which opens into the stem and having a polygonal cross-sectional portion disposed in that part of the pipe whereby the bore between the bowl and the stem is constantly cleaned by the use of the operator in controlling the position of the filter.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a longitudinal sectional view through a conventional pipe and shows mounted therein the filter unit which is the subject of this invention;

Figure 2 is an enlarged longitudinal sectional view taken through the filter unit, the operator being omitted;

Figure 3 is an enlarged transverse sectional view taken substantially upon the plane indicated by the section line 3—3 of Figure 2 and shows the valve construction of the filter unit;

Figure 4 is an enlarged side elevational view of a portion of the filter unit and shows the details of a body member of the filter unit and the filter element disposed therein; and

Figure 5 is an enlarged elevational view of the control valve of the filter unit.

Referring now to the drawings in detail, it will be seen that there is illustrated in Figure 1 a conventional type of smoking pipe which is referred to in general by the reference numeral 10. The pipe 10 includes a bowl 12 having a bore 14 for receiving tobacco. Formed integral with the bowl 12 is a stem 16 which has an enlarged bore 18 therethrough. Disposed concentric of the bore 13 and forming an extension thereof is a small bore 20 which communicates the bore 14 of the bowl 12 with the bore 18 of the stem 16. The bore 20 includes a reduced extension 22 which opens through the bowl 12 to the exterior thereof.

Seated in the end of the bore 18 remote from the bowl

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12 is a reduced end 24 of a bit 26. The bit 26 is provided with an intermediate bore 28 which opens into the enlarged bore 18.

Carried by the pipe 10 is the filter unit which is the subject of this invention, the filter unit being referred to in general by the reference numeral 30. The filter unit 30 includes an elongated tubular body member 32 which includes a first end portion 34 and a second end portion 36. The end portion 34 is disposed within the bore 28 so that the tubular body member 32 is carried by the bit 26. The tubular body member 32 extends into the enlarged bore 18, as is best shown in Figure 1.

As best shown in Figures 3 and 4, the second end portion of the tubular body member 32 is provided with a pair of diametrically disposed longitudinally extending slots 38. The slots 38 are relatively wide, as is best illustrated in Figure 3. Disposed within the second portion 36 of the tubular body member 32 is a filter element 40. The filter element 40 is formed of a roll of screen, the screen being preferably formed of a plastic, such as nylon. Because of the mesh of the screen and the fact that it is rolled, the filter element 40 functions effectively as a filter.

The filter unit 40 also includes a control valve 42. The control valve 42 includes an elongated tubular portion 44 which has the right hand end thereof, as viewed in Figure 5, closed by an end wall 46. The end wall 46 is relatively thick and is provided with a polygonal cross sectional socket 48 for a reason to be described in more detail hereinafter.

The tubular portion 44 of the control valve 42 is provided with a pair of diametrically opposed longitudinally extending slots 50. The slots 50 are selectively alignable with the slots 38 to control the opening into the tubular body member 32. Thus by selectively aligning the slots 38 and 50, the amount of smoke passing into the filter unit 30 may be controlled.

The filter unit 30 also includes an operator which is referred to in general by the reference numeral 52 and is shown in Figure 1. The operator 52 includes an elongated shaft 54 which is snugly received in the bore extension 22 and sealed with respect thereto against leakage of smoke and tobacco. The shaft 54 includes a polygonal cross-sectional portion 56 which is disposed in the bore 20. The polygonal cross-sectional portion 56 terminates in an end 58 of a cross-section to fit in the socket 48 whereby the operator 52 may be locked with the control valve 42 to facilitate rotation thereof. In order that the operator 52 may be rotated, there is provided a thumb wheel 60 on the shank 54 externally of the bowl 12. The thumb wheel 60 is seated in a socket 62.

By making the shank 54 with a polygonal cross-sectional portion disposed within the bore 20, it will be readily apparent that the operator 52 will also function as a scraper to continuously clean the bore 20 and to prevent clogging thereof.

Since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination with a pipe including a bowl, a stem connected to said bowl and a bit, a filter unit, said stem having an enlarged bore communicated with the interior of said bowl by a small bore disposed concentric of said enlarged bore and forming a continuation thereof, said small bore extending through said bowl to the exterior thereof, said bit having a reduced end seated in said enlarged bore, said bit being provided with an intermediate

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bore, said filter unit including a tubular body member having first and second end portions, said first end portion being seated in said intermediate bore and said second end portion projecting into said enlarged bore, longitudinally directed slots in the sides of said second end portion, a filter element disposed in said second end portion, a substantially cylindrical control valve telescoped over said second end portion and closing said second end, said control valve including other elongated slots selectively alignable with said first mentioned longitudinal slots to vary the size of openings into said body member, and an operator extending through said small bore and engaging said control valve for positioning said control valve.

2. In combination with a pipe including a bowl, a stem connected to said bowl and a bit, a filter unit, said stem having an enlarged bore communicated with the interior of said bowl by a small bore disposed concentric of said enlarged bore and forming a continuation thereof, said small bore extending through said bowl to the exterior thereof, said bit having a reduced end seated in said enlarged bore, said bit being provided with an intermediate bore, said filter unit including a tubular body member having first and second end portions, said first end portion being seated in said intermediate bore and said second end portion projecting into said enlarged bore, longitudinally directed slots in the sides of said second end portion, a filter element disposed in said second end portion, a substantially cylindrical control valve telescoped over said second end portion and closing said second end, said control valve including other elongated slots selectively alignable with said first mentioned longitudinal slots to vary the size of openings into said body member, and an operator extending through said small bore and engaging said control valve for positioning said control valve, said filter element being in the form of a roll of screen.

3. In combination with a pipe including a bowl, a stem connected to said bowl and a bit, a filter unit, said stem having an enlarged bore communicated with the interior of said bowl by a small bore disposed concentric of said enlarged bore and forming a continuation thereof, said small bore extending through said bowl to the exterior thereof, said bit having a reduced end seated in said enlarged bore, said bit being provided with an intermediate bore, said filter unit including a tubular body member having first and second end portions, said first end portion

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being seated in said intermediate bore and said second end portion projecting into said enlarged bore, longitudinally directed slots in the sides of said second end portion, a filter element disposed in said second end portion, a substantially cylindrical control valve telescoped over said second end portion and closing said second end, said control valve including other elongated slots selectively alignable with said first mentioned longitudinal slots to vary the size of openings into said body member, and an operator extending through said small bore and engaging said control valve for positioning said control valve, said operator having a portion of polygonal cross-section disposed in said small bore adjacent said enlarged bore for cleaning said small bore.

4. In combination with a pipe including a bowl, a stem connected to said bowl and a bit, a filter unit, said stem having an enlarged bore communicated with the interior of said bowl by a small bore disposed concentric of said enlarged bore and forming a continuation thereof, said small bore extending through said bowl to the exterior thereof, said bit having a reduced end seated in said enlarged bore, said bit being provided with an intermediate bore, said filter unit including a tubular body member having first and second end portions, said first end portion being seated in said intermediate bore and said second end portion projecting into said enlarged bore, longitudinally directed slots in the sides of said second end portion, a filter element disposed in said second end portion, a substantially cylindrical control valve telescoped over said second end portion and closing said second end, said control valve including other elongated slots selectively alignable with said first mentioned longitudinal slots to vary the size of openings into said body member, and an operator extending through said small bore and engaging said control valve for positioning said control valve, said operator having a portion of polygonal cross-section disposed in said small bore adjacent said enlarged bore for cleaning said small bore, said filter element being in the form of a roll of screen.

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