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MacDOUGALD DEXTER

1,985,365

TOBACCO PIPE

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Fig. 1

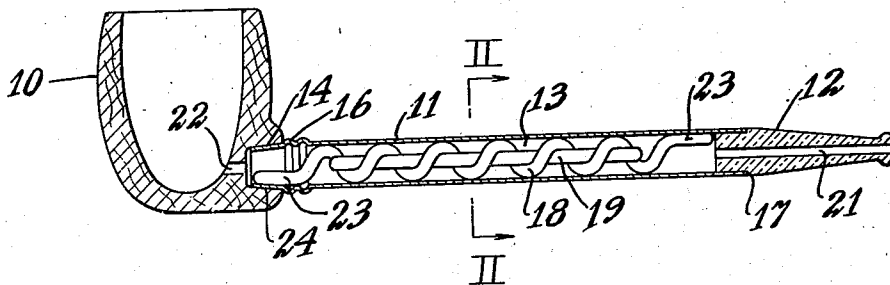
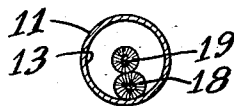


Fig. 2



INVENTOR

MacDougald Dexter

BY *Johnston & Jennings*

ATTORNEYS

UNITED STATES PATENT OFFICE

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TOBACCO PIPE

MacDougald Dexter, Columbus, Ga.

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1 Claim. (Cl. 131—12)

My invention relates to a tobacco pipe, and has for its object the provision of a pipe which shall incorporate therein a means for cooling the smoke, condensing the vapors in the smoke, and scrubbing the condensed vapors out of the smoke, before the smoke reaches the smoker's mouth.

A further object of my invention is to provide an improved stem for a pipe which shall be effective to radiate the heat of the smoke to the surrounding atmosphere and thus cool the smoke and condense the vapors therein, and which shall embody therein a filtering and scrubbing element which shall be effective to cause the smoke to follow a relatively long tortuous path around the walls of the stem on its way to the bit, or mouth-piece, of the stem.

A still further object of my invention is to provide a scrubbing and filtering element for a pipe stem in the form of a spiral made of absorbent material and wound about a core of absorbent material, and so formed that the ends of the spiral or the core can not enter and obstruct the passage leading from the bowl of the pipe or the passage in the bit in the end of the stem.

As is well known in the art to which my invention relates, the principal objection to pipe smoking centers around the fact that condensed vapors containing nicotine from the tobacco are deposited by condensation in the bowl and stem of the pipe, and upon a sufficient accumulation thereof are drawn by the smoker into his mouth, producing nausea, excessive expectoration, and discoloration of the teeth. Various means have been proposed in the past to overcome this objection, most of which have consisted in some sort of a trap in the stummel or adjacent the bowl of the pipe, whereby to trap these condensed vapors where they may be periodically cleaned out. Also, various forms of filters have been proposed which are incorporated in the bottom of the bowl or in the stem of the pipe, the purposes of which are to filter the smoke, more or less, and thus reduce the amount of condensation products passing outwardly through the bit.

My invention contemplates a marked improvement on any of the efforts which have heretofore been made and with which I am familiar, in that I provide, within a limited area, the maximum of radiating and convecting surface for the heat from the smoke, the maximum length of travel for the smoke from the time it leaves the bowl of the pipe until it reaches the smoker's mouth, while all the time exposing it to the radiating and connecting surface. All the while the smoke is travelling through the long tortuous condensing passage

which I provide, it is subjected to a frictional scrubbing action which serves to remove the condensed vapors. The result is that when the smoke reaches the smoker's mouth, all of the condensable vapors, containing tarry products, nicotine, and water, are removed.

A pipe made in accordance with my invention is illustrated in the accompanying drawing forming a part of this application, in which

Fig. 1 is a longitudinal sectional view of the pipe; and

Fig. 2 is an enlarged sectional view taken along the line II—II of Fig. 1.

Referring to the drawing for a better understanding of my invention, I show a pipe comprising a bowl 10, a stem 11, and a bit or mouth-piece 12 fitting into the stem.

The bowl 10 may be made of any suitable material commonly used in the manufacture of pipes, but is preferably formed as shown without a stummel, so that the stem 11 fits directly into the bowl of the pipe. The reason for this is to decrease the weight of the pipe and to provide the maximum of radiating and condensing surface. It also avoids trapping a mass of condensation products remote from the filtering element, which will presently be described.

The stem 11 is made of a relatively thin material having a high heat conducting co-efficient. While many suitable materials will suggest themselves, I have found that a thin tube made of aluminum is admirably suited for making the stem. The stem 11 being made of thin material, and of a diameter corresponding to that usually found in pipe designs, has a relatively large bore 13.

Adjacent the bowl 10 the stem may be formed with a taper 14 whereby to make a tight fit in a suitable bore 24 formed in the bowl of the pipe, and is preferably provided with a bead 16 adjacent the bowl of the pipe to form a shoulder which may bottom against the outside of the bowl. The bit 12 fits snugly within the outer end of the stem and, for the purpose of improved appearance, should be provided with a slight shoulder 17 to merge with the outer surface of the stem 11.

Disposed within the stem 11 between the bowl 10 and the bit 12, is my improved filtering and scrubbing element. The filtering and scrubbing element comprises a spiral 18 made of fibrous material woven into a twisted wire, such as is used in the manufacture of ordinary pipe cleaners. The spiral 18 is wound about a central core 19 made of the same material. The spiral

18, as shown in the drawing, fits snugly within the bore 13 of the stem 11. The central core 19, as shown in the drawing, is shorter than the length of the coil formed by the spiral 18, so that the ends of the core 19 can not enter and obstruct the passage 21 in the bit 12, or the passage 22 leading from the bowl 10 of the pipe. Also, in order to prevent any possibility of stoppage of the passages 21 and 22, I turn the ends 23 of the coil 18 in a direction parallel with the central core, whereby they are caused to abut against the ends of the bit 12 and the bottom of the enlarged bore 24 of the bowl and are thereby prevented from entering said passages.

From the foregoing description, the operation of my improved pipe will be readily understood. Smoke, laden with condensable vapors passes from the bowl 10 of the pipe into the stem 11, and due to the snug fit of the coil 18 and to the central core 19, is forced to follow the convolutions of the coil 18 in its travel to the smoker's mouth. The core 19 prevents any short circuiting of the smoke through the center of the coil, and the snug fit of the coil 18 prevents any short circuiting of the smoke over the outer periphery of the convolutions of the coil. In its travel through the stem, the heat from the smoke is radiated through the thin conductive walls of the stem, facilitating the condensation of the vapors in the smoke. Upon being condensed, the condensation products are scrubbed out of the smoke by intimate frictional contact with the

fibrous material forming the convolutions and the central core of the filter element. Whenever the scrubbing and filtering medium has become saturated with condensation products, it is discarded and another put in its place, so that the pipe may, at all times, be kept clean and fresh. The filtering element is inexpensive, costing no more than ordinary pipe cleaners already used by smokers.

While I have shown my invention in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications, without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are imposed by the prior art or as are specifically set forth in the appended claim.

What I claim is:

A filter for a pipe stem consisting of a straight axial member and a helical member surrounding said axial member, the ends of the helical member being bent so as to extend in planes adjoining to but not in alignment with and extending past the ends of the axial members, whereby when the filter is inserted in the bore of a pipe stem an unobstructed passage will be formed between the bowl opening and the mouthpiece opening, the major portion of said passage being of spiral formation.

MACDOUGALD DEXTER.