Nov. 6, 1945. R. H. MUELLER ET AL 2,388,338

TOBACCO PIPE

Filed Sept. 28, 1943

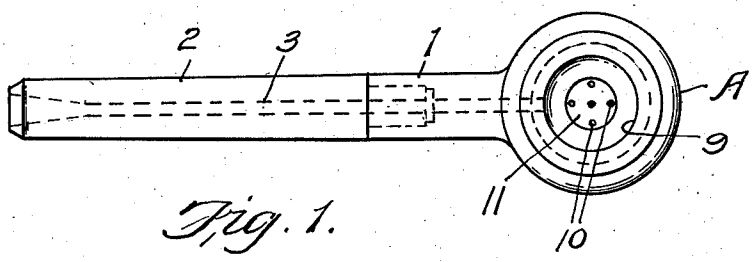


Fig. 1.

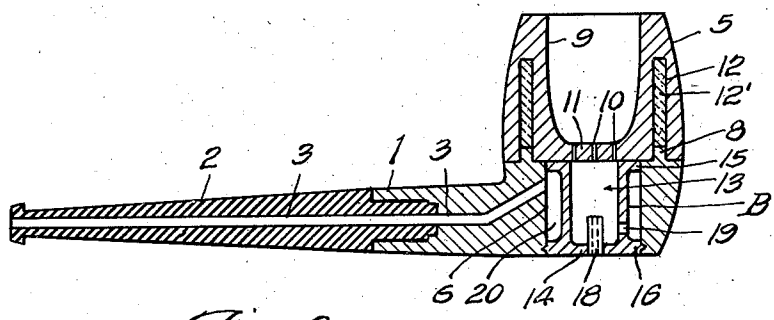


Fig. 2.

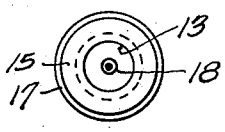


Fig. 3.

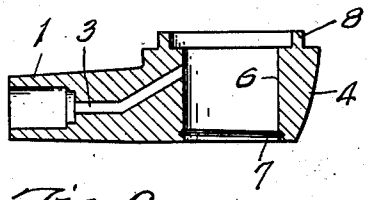


Fig. 6

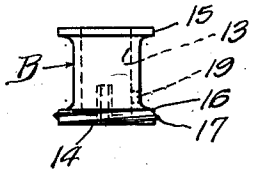


Fig. 4.

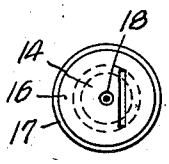


Fig. 5.

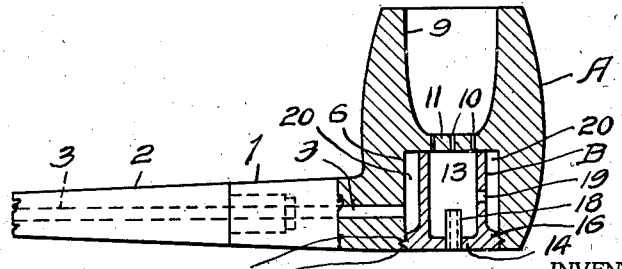


Fig. 7.

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TOBACCO PIPE

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3 Claims. (Cl. 131—225)

This invention relates to tobacco pipes.

The object of the present invention is to provide a smoker's pipe whereby there is assured, due to the structure thereof, a uniform dry, non-biting and cool smoke, and providing conditions for perfect combustion causing smoking tobacco to be burned to a clean, dry ash, thus leaving no wet tobacco and nicotine paste in the bottom of the tobacco compartment of the pipe bowl.

A further object of the invention is to provide a pipe bowl structure wherein a smoke flow is provided from the tobacco compartment of the pipe bowl to a chamber in an insert member which is in co-axial alignment with and below the tobacco compartment, and wherein the smoke is mixed with fresh air admitted upwardly through the bottom of said mixing chamber, and, from which mixing chamber the admixture of smoke and air is admitted into a circulating chamber concentric with the smoke and air mixing chamber, and finally admitted from the circulating chamber into the passage of the pipe stem and bit.

We are aware that efforts have been made to construct pipes to deliver cool, dry smoke to the mouth of a smoker, to leave a dry ash in the tobacco chamber, to provide nicotine sumps, and otherwise produce a clean uniform smoke, but we believe it is within the province of this disclosure to improve generally and to enhance the utility of tobacco pipes by preventing distillation of the tobacco in the bowl by providing perfect conditions of combustion, mixing air with the smoke below the combustion chamber, and then circulating the admixture of smoke and air introduced thereinto to secure a dry, clean, and cool smoke, and to provide a free draft at all times.

With the above and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts hereinafter more fully described and finally pointed out in the claims hereto appended.

Referring to the drawing forming a part of this application, wherein like characters of reference denote similar parts throughout the several views:

Fig. 1 is a top plan view of a tobacco pipe embodying the features of our invention.

Fig. 2 is a longitudinal vertical sectional view of a tobacco pipe clearly disclosing the features of our invention.

Fig. 3 is a top plan view of the insert member.

Fig. 4 is a side elevation of the insert member.

Fig. 5 is a bottom plan view of the insert member.

Fig. 6 is a detail of the lower section of the two piece bowl section.

Fig. 7 is a view partly in elevation and partly in section, illustrating the pipe with a one piece bowl.

Referring to the drawing, the tobacco pipe embodying the features of our invention is illustrated, generally, as comprising a pipe bowl made from suitable material, and which is divided into upper and lower compartments in vertical co-axial alignment with a grate therebetween, a hollow insert member held in position in the lower compartment and providing within the lower compartment a vertically disposed smoke and air mixing and cooling chamber in co-axial alignment with the upper or tobacco chamber and an annular outer or concentrically arranged smoke circulating chamber in communication with the smoke and air mixing and cooling chamber, an air inlet directed into the smoke and air mixing and cooling chamber, a stem for the bowl, a bit removably connected with the stem, and which stem and bit have a passage in communication with the smoke circulating chamber at a predetermined elevation of the smoke circulating chamber.

The bowl of the pipe can be made of two sections suitably united, or it can be made as a one piece bowl.

Referring, in detail, to the drawing, the reference character A designates, generally, a pipe bowl provided with a stem 1. A suitable bit 2 is removably connected with the stem 1. The stem and bit are provided with a continuous smoke passage designated 3.

As illustrated in one embodiment of the invention, as shown in Fig. 2, the bowl A is formed of two sections, namely, a lower section 4, which includes the stem 1, and an upper section 5.

The lower bowl section 4, which can be made from any suitable material, is provided with a vertical bore serving as a compartment 6, which compartment, when the upper bowl section is removed, is open at both ends. The lower end portion of the wall of the bore, or compartment 6, is provided with suitable screw-threads designated 7. The upper face of the lower bowl section 4 is provided with an upright ring like tongue 8.

The upper bowl section 5 which is preferably made of briar, is suitably bored out to provide a tobacco chamber 9 having its lower end closed, and provided with a plurality of small smoke openings 10 so as to form a grate 11. The wall

of the upper bowl section 5 is milled out from the lower face thereof upwardly to provide an annular space, or groove 12, into the lower end of which the ring like tongue 8 of the lower bowl section 4 tightly fits to provide a tongue and groove connection between the lower and upper pipe bowl sections 4 and 5. Thus assembled, there is formed the lower and upper compartments 6 and 9, respectively, in vertical axial alignment. The space, or groove 12 in the upper bowl section 5 can, if desired, be filled with suitable insulating material 12', or used merely as a dead air space. Thus heat generated in the combustion chamber is not transmitted in its entirety to the exterior of the pipe bowl. This is conducive to a more comfortable handling of the pipe.

The insert member, designated, generally as B, can be made of any suitable material, such as wood, plastic, or other desirable material, and, in general is of spool shape, except that the bore, or chamber 13, which is centrally disposed and serves as a smoke and air mixing and cooling chamber, has a closed lower end 14, but is open at the top. The upper and lower ends of the insert member B can be flanged outwardly, as at 15 and 16, respectively. The upper flange 15 on the insert member B can be eliminated, if so desired, and as clearly illustrated in Fig. 7. The lower flange 16 is provided with suitable screw-threads 17 for threaded engagement with screw-threads 7 in the wall of the lower compartment 6 of the pipe bowl A, thus being removable therefrom when desired for cleaning the lower pipe bowl compartment 6, whether the bowl is made in one piece or two sections.

A suitable air nozzle 18 is secured to, or integral with the bottom wall of the insert member B, and it projects upwardly a predetermined distance into the central chamber 13' of the insert member. The side wall of the insert member B is provided with a suitable smoke outlet 19. When the insert member B is positioned in the lower chamber 6 of the pipe bowl A, there is provided an annular chamber 20 concentric with the insert member chamber 13, and this serves as a smoke circulating chamber for the air cooled smoke from chamber 13 to travel through and around the mixing and cooling chamber before entering the smoke passage 3 in the pipe stem and bit.

The lower ends of the smoke and air mixing chamber 13 and the circulating chamber 20, respectively, serve as nicotine or moisture sumps, which are readily cleaned out upon removal of the insert member B from the lower pipe bowl chamber 6.

If the pipe bowl A is a two piece structure, as shown in Fig. 2, and the upper bowl section 5 is detached from the lower bowl section, and the insert member B is removed from the chamber 6 of the lower bowl section 4, the chamber 6 will be open at both ends for readily and easily cleaning thereof, whereas, the insert member can then also be readily and easily cleaned.

When the pipe bowl A is made of two sections, the lower pipe bowl section 4, its stem 1, as well as the insert member B can be formed of plastic material, if so desired, or any other suitable and desirable material.

In our pipe construction, it is however, essential that the vertically disposed smoke and air mixing chamber be in co-axial alignment with the tobacco chamber, and that there be formed a smoke circulating chamber concentric with the smoke and air mixing chamber so as to also be in co-axial alignment with the tobacco chamber, thus smoke is drawn downwardly from the tobacco chamber through openings 11 into the insert chamber 13 where it is mixed with a fresh intake of air through the air nozzle 18. The mixed air and smoke is then drawn through a suitably located outlet in the wall of the insert member B, preferably toward the front of the pipe bowl and circulated within the chamber 20 which is concentric with chamber 13 so as to be forced to flow around the chamber outside the insert member before it passes through and out of the stem and bit passage 3, which can communicate with the smoke circulating chamber 20 at any desired or predetermined elevation thereof.

While we have shown both a one piece and a two piece pipe bowl structure, it is manifest that the principle of the smoke flow is the same in either instance, as the chamber constructions 6 and 20 remain the same, that is, a vertically disposed smoke and air mixing chamber 6 that is in co-axial alignment with the tobacco chamber and a smoke circulating chamber 20 that is concentric with the smoke and air mixing chamber 6 and also in co-axial alignment with the tobacco chamber, and which smoke circulating chamber is in direct communication with the stem and bit passage 3 at a predetermined elevation of the smoke circulating chamber 20.

The many advantages of the hereindescribed invention will readily suggest themselves to those skilled in the art to which the invention relates, and by smoking the pipe, it will be readily apparent to the average pipe smoker by delivering a surprisingly smooth, dry and cool smoke which is so much desired.

From the foregoing description, it is evident that a simple pipe construction has been disclosed, but it is to be understood that we do not desire to restrict, or limit ourselves to the very details of the construction shown and described, which is merely illustrative, it being obvious that changes, not involving the exercise of invention may be made without conflicting or departing from the spirit of the invention within the scope of the appended claims.

What we claim is:

1. A smoking pipe having, in combination, a lower bowl section, said section having a vertical bore normally open at its ends, internal screw-threads at the lower end of said bore, an upwardly projecting ringlike tongue on the upper face of the said section, a stem projecting from said bowl section having a smoke passage centrally of the outer end of the stem and leading from the bore of the bowl section adjacent the upper edge thereof, an upper bowl section, said upper section having a flat bottom face, and thereabove a tobacco cavity, an annular space surrounding the major portion of the tobacco cavity and open at its lower end, heat resisting material within said space except for a minor part thereof to provide an annular groove in the lower flat face of the upper bowl section to tightly receive the tongue of the lower bowl section, said upper bowl section having a small diameter central downdraft smoke opening and a plurality of like openings spaced therefrom with all of openings open to the lower flat face of the upper bowl section and open to the tobacco cavity, a hollow insert member, the major length thereof from the top downwardly being of less diameter than the bore of lower bowl section, the remaining length of the insert member being of greater diameter than said last mentioned bore and provided with external

screw-threads adapted to engage the aforesaid internal screw-threads when the insert member is inserted into the lower bowl bore causing the upper face of the insert member to contact the lower flat face of the upper bowl section surrounding the downdraft openings to provide a mixing chamber below said openings and to provide an annular chamber surrounding the insert member, an updraft fresh air opening central of the bottom of the insert member, and a smoke outlet opening in the side wall of the insert member so disposed as to cause the smoke to travel around the insert member before entering the smoke passage to the stem leading from the wall of the bore of the lower bowl section.

2. A lower bowl section for a smoking pipe of the separable bowl type, said lower bowl section having a vertical bore normally open at upper and lower ends thereof, internal screw-threads at the lower end of the bore of said section, an upwardly projecting ring-like tongue on the upper face of the lower bowl section, a stem projecting from the lower bowl section having a smoke passage centrally of the outer end of the stem and leading from the bore of the bowl section adjacent the upper edge portion thereof.

3. An upper bowl section for a smoking pipe of the separable bowl type, said bowl section having a flat bottom face, a tobacco cavity, an annular space surrounding the major portion of the tobacco cavity and open at its lower end, a heat resisting material disposed within said space except for a minor part thereof to provide an annular groove in the lower face of the bowl section, and said bowl section having a small diameter central draft opening and a plurality of like diameter draft openings spaced therefrom with all of said draft openings open to the lower face of the bowl section and open to the tobacco cavity.

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