

May 7, 1940.

K. F. J. KIRSTEN

2,200,237

TOBACCO PIPE

Original Filed Aug. 30, 1938

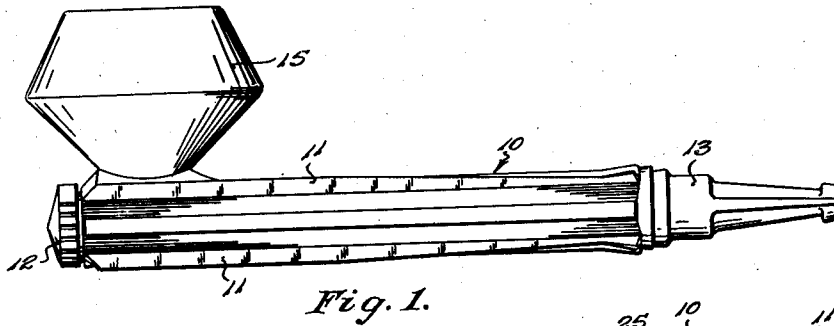


Fig. 1.

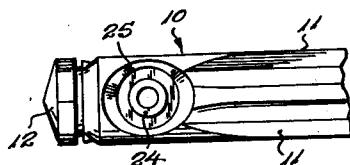


Fig. 4.

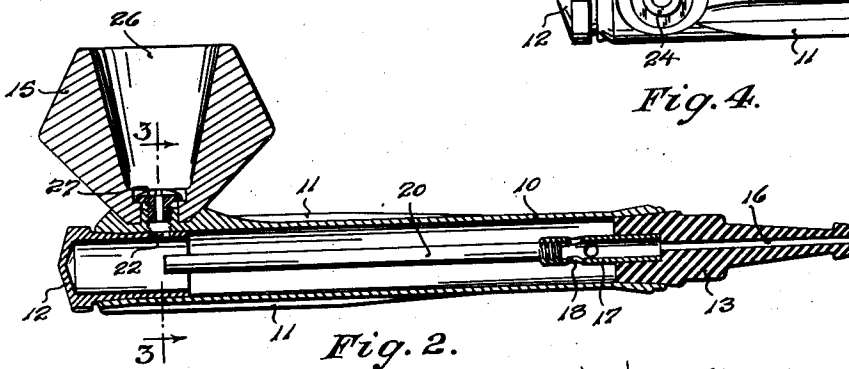


Fig. 2.

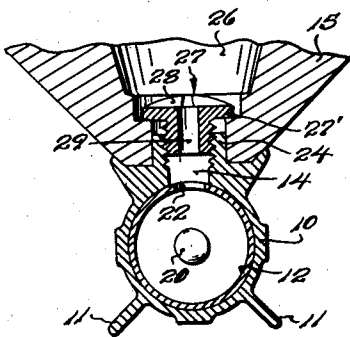


Fig. 3.

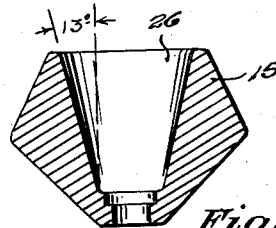


Fig. 5.

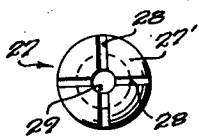


Fig. 6.

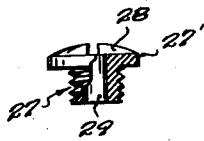


Fig. 7.



Fig. 8.

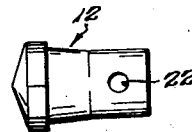


Fig. 9.

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# UNITED STATES PATENT OFFICE

2,200,237

## TOBACCO PIPE

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Original application August 30, 1938, Serial No. 227,483. Divided and this application March 18, 1940, Serial No. 324,671

9 Claims. (Cl. 131—194)

This invention relates to tobacco pipes and is a division of my co-pending application for Letters Patent of the United States filed August 30, 1938, Ser. No. 227,483. My present invention, more especially, is directed to a pipe characterized in that the tobacco-receiving bowl is detachably mounted on a supporting barrel therefor, and its object, stated broadly, is to perfect the manner of attaching the bowl to the barrel.

With this and other more specific ends in view, the nature of which will appear in the course of the following description and claims, the invention consists in the novel construction and in the adaptation and combination of parts hereinafter described and claimed.

In the drawing:

Figure 1 is a view in side elevation representing a pipe embodying the present improvements.

Fig. 2 is a longitudinal vertical section thereof.

Fig. 3 is a transverse vertical section taken to an enlarged scale on line 3—3 of Fig. 2.

Fig. 4 is a fragmentary top plan view of the heat-radiating barrel with the bowl removed.

Fig. 5 is a vertical section detailing the bowl.

Fig. 6 is a detail top plan view illustrating, to an enlarged scale, the center-bored screw which serves to detachably secure the bowl in smoke-feeding relation to the heat-radiating barrel of the pipe.

Fig. 7 is a view taken partly in side elevation and partly in vertical section to further detail the screw.

Fig. 8 is a view in end elevation detailing the removable plug-valve for the barrel; and

Fig. 9 is a top plan view of the plug-valve.

Having reference to said drawing, the numeral 10 denotes the barrel of the pipe which is preferably of Duralumin or other light-weight metal relatively high in heat conductivity and provided externally with fins 11 extending longitudinally for substantially the length of the barrel. The barrel is provided with a through-bore of substantially uniform diameter throughout having the two ends slightly flared to provide tapering seats for the reception of a plug-valve 12 and a mouth-piece 13 at the forward and rear ends, respectively, and in the upper wall proximate to but spaced rearwardly from the tapering valve seat provides a smoke port 14 by which smoke is drawn into the bore from a tobacco-receiving bowl 15 mounted on the barrel.

The bore of said barrel operates as a condensation chamber for the pipe and it is to be pointed out that the smoke capacity of this chamber desirably equals or very slightly exceeds the volume

of a single smoke charge, which is to say the volume of smoke which is drawn by the user from the tobacco-receiving bowl in each successive puff upon the pipe. Established from laboratory experiments, it may be here stated that by far the large majority of smokers vary but little in the volume of smoke taken in each draught from a pipe, and to accommodate this determined charge I form the bore of the barrel with the referred-to greater volumetric capacity assuring thereby a time interval equivalent to that between puffs for condensation of the deleterious oils present in the smoke.

The mouth-piece is of the usual material, hard rubber or the like, having a taper corresponding to the flare of the seat therefor and provided with an axial smoke-passage 16 which is prolonged forwardly into the condensation chamber by a projecting tube 17 internally threaded in its exposed end and formed in the side wall with multiple smoke ports 18. These smoke ports, to assure ready cleaning and also, without weakening the tube, to provide a flow capacity obviating resistance to the passage of smoke, are arranged in longitudinally and circumferentially off-set pairs with the ports of each pair disposed diametrically opposite from one another. 20 denotes a solid ram-rod suitably threaded to engage the threads of the tube 17 and extending axially therefrom, in the assembled position of the mouth-piece, into close proximity to the forward limits of the bore. The application of this ram-rod in forcing tissue paper or other suitable cleaning wad through the bore of the barrel to remove residual smoke deposits and salivary moisture therefrom is believed self-evident.

The plug 12 is formed in the nature of a thimble having an external taper corresponding to the flare of its seat and with a cylindrical projection having a free fit relative to the cylindrical bore of the barrel, the cylindrical projection being of a length to project, in the assembled position of the plug, rearwardly beyond the rear limits of the smoke port 14 and having a port 22 adapted by rotation of the plug to be brought into register with the port 14. The exposed operating head of the plug is desirably knurled.

Referring more particularly to the smoke port 14, it will be seen that the same is prolonged upwardly through an upstanding and internally-threaded metallic neck 24, this neck lying within a circular bowl-socket having a surrounding wall 25 concentric to the neck and sloped to an angularity, preferably 45°, which similarly characterizes the base of the bowl. Such base portion,

from the bowl's tobacco chamber 26, is vertically bored and counter-bored, and the bore, into which the neck 24 fits, is preferably of a length slightly exceeding the neck's height. 27 denotes a center-bored flanged metallic screw which threads into the metallic neck and bears against the shoulder produced by the counter-bore for securing the bowl in fixed relation to the barrel, the flange-forming head 27' of this screw being diametrically slotted to provide smoke channels 28 leading from the lateral limits of the head to the center bore 29. While not illustrated, it is obvious that these smoke channels 28 might be complemented by diagonal ducts drilled through the head of the screw and meeting the bore 29 at the approximate mid-length thereof.

The tobacco chamber of my bowl is desirably straight-sided with a slope of approximately 13° from the vertical and is defined at its lower end by an abrupt shelf disposed flush or approximately flush with the upper surface of the screw. The arrangement, with no danger of clogging the pipe, permits the chamber 26 to be completely filled with tobacco and this full charge firmly pressed "home" in one application of the finger, the applied pressure being transmitted relatively uniformly throughout the body of the tobacco, a result which can be attributed to the conjunctive association of the 13° slope with the flat shelf. This uniform compression of the tobacco within the bowl, in conjunction with the draught-distributing smoke channels 28, assures a complete and even burning of the tobacco to eliminate the residual heel which is characteristic of substantially all pipes heretofore devised.

While I have described in some detail the complete pipe as the same is illustrated in the drawing, I wish to state that the condensation feature thereof, namely the radiation barrel having at one end the plug 12 and at the other end the mouth-piece fitted with a ram-rod 20, are no part of the present invention, being described and claimed in my co-pending patent application hereinbefore identified.

As to the illustrated and described means for attaching the bowl to the barrel, being the inventive advance to which the present application is directed, and based upon the metallic screw at the base of the chamber of the bowl directly engaged with the metallic neck of the heat conducting metallic barrel for the acceleration of smoke heat conduction to the barrel exposed to the atmosphere for the rapid dissipation of heat, it is obvious that numerous modifications might be resorted to without departing from the spirit of the invention. It is my intention that the language of the hereto annexed claims be given an interpretation providing a scope commensurate with the state of the advance in the art.

What I claim is:

1. A tobacco pipe comprising the combination of a heat-conducting metallic barrel having a smoke chamber therein and formed with an internally threaded wall opening leading to the chamber, a non-metallic bowl for said barrel having an opening through its base leading from the tobacco chamber thereof and adapted to register with the threaded opening of the barrel, and a metallic center-bored headed screw received in the opening of the bowl and engaging the threads of the barrel opening for direct contact with the metallic barrel, the screw head finding bearing engagement with respect to the bottom of the bowl for securing the bowl relative to the barrel and said screw by its metallic na-

ture functioning to maintain a lower temperature at the bottom of the bowl by rapid conduction of the heat of the smoke to the metallic barrel and outer atmosphere.

2. A tobacco pipe comprising the combination of a heat-conducting metallic barrel having a smoke chamber therein and formed with an internally threaded wall opening leading to the chamber, a non-metallic bowl for said barrel having an opening through its base leading from the tobacco chamber thereof and adapted to register with the threaded opening of the barrel, and a metallic center-bored headed screw received in the opening of the bowl and engaging the threads of the barrel opening for direct contact with the metallic barrel whereby conduction of the heat of the smoke to the barrel is accelerated for the rapid dissipation thereof, the screw head finding bearing engagement with respect to the bottom of the bowl and constituting the sole means for positively detachably securing the bowl directly to a wall of the barrel exposed to the atmosphere, said screw being characterized in that its bearing head is formed with smoke channels extending from the center-bore of the screw to the side edges of the head for carrying the draft force laterally within the tobacco chamber.

3. A tobacco pipe comprising of a heat-conducting metallic barrel having a smoke chamber therein and formed with a wall opening leading to the chamber, a non-metallic bowl for said barrel having an opening through its base leading from the tobacco chamber thereof and adapted to register with the wall opening of the barrel, and a metallic center-bored headed screw received through the registering openings of said bowl and barrel for direct contact with the metallic barrel whereby conduction of the heat of the smoke to the barrel is accelerated for rapid dissipation thereof and by bearing engagement of its head against the bottom of the bowl constituting the sole means for positively detachably securing the bowl directly to a wall of the barrel exposed to the atmosphere.

4. A tobacco pipe comprising the combination of a heat-conducting metallic barrel having a condensation chamber therein and formed externally with a bowl-receiving socket providing an upstanding hollow neck leading to the interior of the chamber, and a surrounding wall concentric to the neck and sloping uniformly from the axial line of the latter, and a bowl for said socket having a center opening from the tobacco chamber thereof adapted to fit over the neck and having its external wall about the base corresponding to the diameter and slope of the socket wall, and a metallic-headed screw threaded into the metallic hollow neck with the head thereof engaging the bottom wall of the bowl and cooperating with said neck and the surrounding wall concentric with said neck to effect acceleration of the smoke heat by conduction of heat from the smoke at the bottom of the bowl to the metallic barrel and outer atmosphere.

5. A tobacco pipe comprising the combination of a heat-conducting metallic barrel having a condensation chamber therein and formed externally with a bowl-receiving socket providing a centrally disposed and internally threaded opening leading to the chamber, and a surrounding wall sloped uniformly from the axial line of the opening, a bowl for said socket having a center opening through its base adapted to register with the socket opening and formed with its external wall about said base corresponding to the diam-

eter and slope of the socket wall, and a metallic center-bored screw received in the opening of the bowl and directly engaging the threads of the socket opening in the metallic barrel whereby conduction of the heat from the smoke in the bowl to the metallic barrel is accelerated for rapid dissipation thereof, said screw having bearing engagement with respect to the bottom of the bowl for securing the bowl relative to the barrel.

6. A tobacco pipe according to claim 5, wherein the bearing head of the screw is provided in its upper surface with diametrically disposed smoke channels disposed in a plane above the bottom of the bowl engaged by the head of the screw, said channels presenting unobstructed open ends for carrying the draft force laterally within the tobacco chamber.

7. A tobacco pipe comprising the combination of a heat-conducting metallic barrel having a smoke chamber therein and formed externally with a bowl-receiving seat providing an internally threaded opening leading to the smoke chamber, a non-metallic bowl for said seat having an opening through its base leading from the tobacco chamber and arranged to register with the barrel opening in the seated position of the bowl and providing a counter-bore at the admission end of said base opening, and a metallic center-bored headed screw received in the base opening of the bowl and engaging the threads of the barrel opening for direct contact with the metallic barrel, the screw head finding bearing engagement with the shoulder of the counter-bore for secur-

ing the bowl relative to the barrel and said screw by its metallic nature functioning to maintain a lower temperature at the bottom of the bowl by rapid conduction of the heat of the smoke to the metallic barrel and outer atmosphere.

8. A tobacco pipe comprising a metal barrel having a smoke chamber therein and formed with a wall opening leading to the chamber, a non-metallic bowl, and metallic means for detachably securing said bowl in smoke feeding relation to said wall opening of the barrel, said metallic securing means being characterized in that the same bears against the floor of the bowl and by engagement with the metallic barrel seats the bowl member relative to the barrel member and acts to maintain a lower temperature at the bottom of the bowl by the acceleration of smoke heat conduction to the metallic barrel and outer atmosphere.

9. A tobacco pipe comprising the combination of a metallic barrel having a smoke chamber therein and formed externally with an upstanding hollow neck leading to the interior of the chamber, a non-metallic bowl for said barrel having a center opening in its base adapted to fit over the neck for supporting the bowl in smoke feeding relation to the metallic barrel, said metallic neck being operative to maintain a lower temperature at the bottom of the bowl by accelerating the dissipation of the smoke heat through conduction to the metallic barrel and outer atmosphere, and metallic means for securing the bowl in assembled relation with the barrel.

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